DOCUMENT RESUME

ED 071 483 FL 003 586

TITLE	Teaching Methods and Materials Centre, University of Papua and New Guinea: Annual Report, 1971.
INSTITUTION	Papua and New Guinea Univ., Port Moresby. Teaching Methods and Materials Centre.
PUB DATE	Mar 72
NOTE	96p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Annual Reports; Audiovisual Aids; Clearinghouses; *Curriculum Development; Educational Needs; Educational Problems; Educational Research; English (Second Language); Evaluation; *Information Centers; Information Services; Instructional Materials; *Instructional Materials Centers; Instructional Media; Science Education; Social Sciences; *Teacher Education; *Teaching Methods

ABSTRACT

This annual report describes the work of the Teaching Methods and Materials Centre of the University of Papua and New Guinea. The five main objectives of the Centre are information services, consultant services, coordination of resources, teacher education and in-service training, and research. Details are provided on the development, progress, and planned activities in several subject areas: English, science, and social science. The Centre's work in information services is also described, as is the work in specific media projects. A section on research projects relevant to curriculum and materials conducted outside the Centre is included. Publications and reports of the Centre are listed. (VM)

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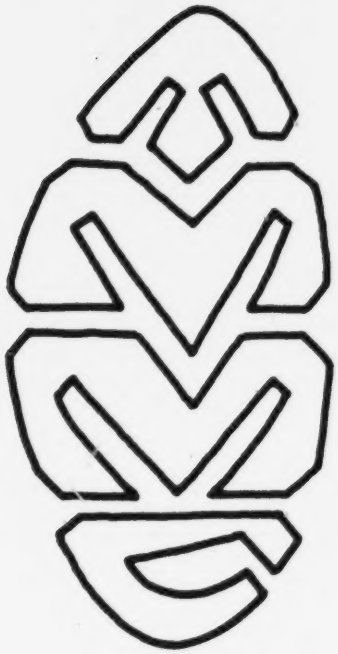

'71 ANNUAL REPORT

teaching methods and materials centre
university of papua and new guinea

march 1972

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FROM EMC TO TMMC 1967 - 1972 PART I

The Educational Materials Centre was conceived in the middle of 1967 and had the beginnings of a physical existence - the first collected materials - in a spare room in a Professor's house later that year. Early in 1968 it had an identifiable and more public existence in the common room of a student dormitory which at that time was being used for academic staff offices, there being no other buildings on campus. A year or so later it had grown and thrived to fill an upstairs section of the University Library, the building of which had just been completed. More than two years later, in mid-1971, the healthy infant had outgrown its space, and moved to fill a larger area in the first extension to the Library just completed - this time on the ground floor and with its own entrance. By the end of the year it was fully established there, an air-conditioned, carpeted, stocked, staffed, equipped Centre; but 'fully established' carries no implication that it is static, and in recent months it has undergone some of the changes of adolescence, changes essential for its further growth to full maturity.

Significant also in speeding the changes of the Centre's adolescence has been growth and change in its parent or guardian. At the end of 1970, the Department of Education joined Arts, Science and Law (followed shortly by Medicine) as a faculty of the University. Shortly afterwards the first appointments were made to an Educational Research Unit, and the birth of this new offspring also precipitated careful reappraisal of the role of the faculty and of its Educational Materials Centre.

FROM EMC TO TMMC 1967 - 1972 (Part I continued)

The main consequences of this re-appraisal have been a clarification of the Centre's functions and a more strict ordering of priorities. During the last four years, the Centre's resources have been stretched to the limit responding to the many demands made upon it from inside and outside the University. A policy of trying to be all things for all people was entirely proper at this stage. An open door, a willingness to be involved in anything in education when we had expertise, were necessary, if we were to get a clear picture of educational needs, of their importance or urgency, and of the role in education in Papua New Guinea the Centre should play. The decisions now made, to take effect from the beginning of 1972, are summarised in the following paragraphs.

First priority in the Centre is the training of teachers. Academic staff in the Faculty of Education whose responsibility is the methods, media and materials of teaching the various school subjects are now permanently located in the Centre, and a research assistant is attached to each. Each team of two, apart from offering courses to train teachers of English or Social Science or Science or Mathematics - the four main subject areas - also:

conducts research into the use of media and materials and in curriculum development in each subject area;

provides information and consultative services in each subject area for others engaged in the training of teachers, e.g. in teachers' colleges;

evaluates, by means of the 'descriptive profiles' developed by research by staff of the Centre over the last three years, existing teaching and learning materials in each subject area.

Thus, first priority for the EMC is to help discharge a major Faculty of Education responsibility - the training of teachers - by providing the appropriate facilities and expertise.

FROM EMC TO TMMC 1967 - 1972 (Part I continued)

Second priority in the Centre is to provide services for University staff to assist with teaching. These services available on request *as far as resources permit* may take a number of forms, as follows:

consultative services re curriculum design, materials (print and non-print) for teaching and learning, and teaching methods:

production services - the production of new materials for teaching within the University, particularly audio-visual materials, and the adaption of existing materials;

instruction as required in the use of teaching equipment.

A third function of the Centre is to respond wherever possible to requests for assistance in in-service training programmes for teachers, *especially staff of teacher education institutions*, and to sponsor workships and seminars to be held at the Centre and elsewhere.

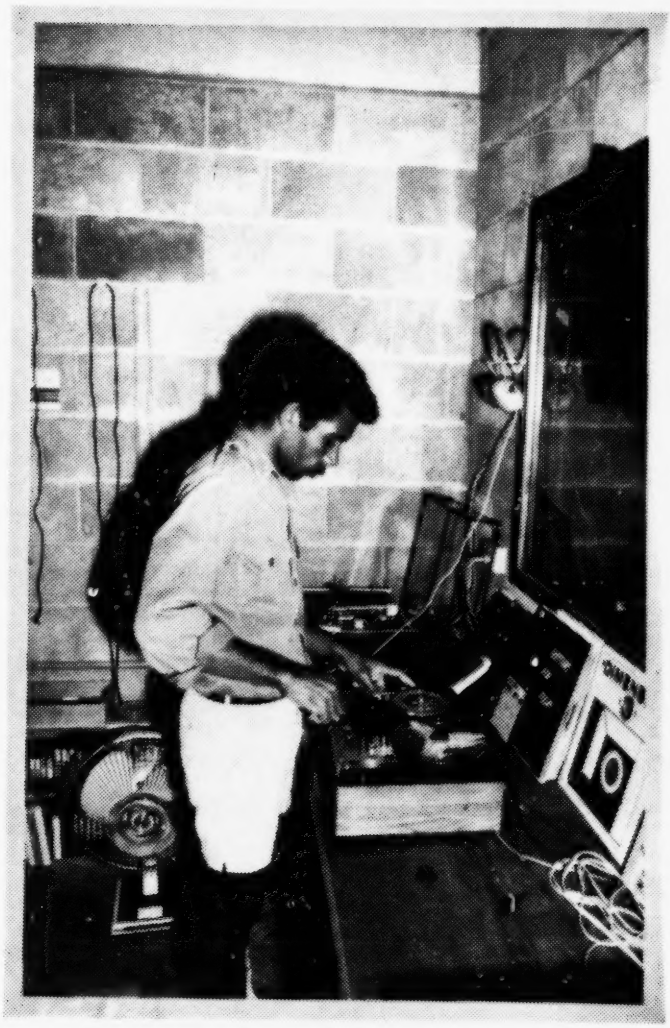
A fourth function of the Centre is to provide information on research and development in the fields of curriculum, media and materials through the collection and display of educational materials, the monthly bulletin of the TMMC, its descriptive profiles of materials, and its response to enquiries.

Finally, the Centre will as far as resources permit assist with the solution of educational problems involving methods, media and materials brought to its attention by agencies outside the University other than those engaged in the training of teachers - i.e. by Government Departments and others with training programmes. But, because of the importance of the functions listed above and their relevance to the needs of the University, of the Faculty of Education, and of others preparing teachers, this function must have the lowest priority.

FROM EMC TO TMMC 1967 - 1972 (Part 1 continued)

Finally, two simple but significant decisions:

1 In order to describe its main functions more clearly, the Educational Materials Centre will in future be called the **Teaching Methods and Materials Centre;**



2 The senior academic of those permanently located there - Dr G.A. Trevaskis - will be designated Director of the Centre and will have administrative responsibility, under the Dean, and within the Faculty of Education, for the day-to-day operations of the Centre.

ERNEST ROE
DEAN
FACULTY OF EDUCATION

RAYMOND BITE *(left)*
TECHNICAL ASSISTANT
at work before leaving on training program in Melbourne Australia

FROM EMC TO TMMC 1967 - 1972 PART II

Previous publications of the former Educational Materials Centre have reported the development and progress of activities of the Centre since its inception late in 1967.

Educational Materials Centre, *Development, Progress and Planned Activities of the Educational Materials Centre, University of Papua and New Guinea, 1968*, Waigani: Educational Materials Centre, University of Papua and New Guinea, 1969.

Educational Materials Centre, *Development, Progress, and Planned Activities of the Educational Materials Centre, University of Papua and New Guinea, 1969*, Waigani: Educational Materials Centre, University of Papua and New Guinea, 1970.

Educational Materials Centre, *Annual Report '70*, Waigani: Educational Materials Centre, University of Papua and New Guinea, 1971.

Those who have worked at the Centre over this period of four years or so can point to a creditable list of achievements accomplished within the framework of the Centre's five main objectives: 1 information service; 2 consultant services; 3 co-ordination of resources; 4 teacher education and in-service training, and 5 research. Commitments of the Centre have grown and developed as the services of the Centre have become known, but the growing number of customers for these services had in their turn placed increasing demands on the services and resources of the Centre.

FROM EMC TO TMMC 1967 - 1972 (Part II continued)

The planned re-organisation of the former Educational Materials Centre outlined in the introduction still recognises the limited resources available to the Centre, yet, at the same time, extends the use of these resources to its successor - the Teaching Methods and Materials Centre - by concentrating them on fewer areas. The role of the TMMC must be examined within the context of developments in the Faculty of Education and the University as a whole, as well as within the context of developments in education in general in Papua New Guinea. Acknowledging this the following are general directions in which the TMMC may well move in 1972.

1 *A closer association with teacher training colleges.* Faculty methods lecturers in the TMMC will be encouraged to serve on College Boards of Studies at teacher training colleges; to work closely with staff in such areas as course development and materials design. Teaching units will be prepared for existing college subjects - for example social science and education - and materials designed. The materials will then be tried and their use observed at one college and sent to other colleges after modification. In-service training workshops and seminars for college staff will be developed and joint community projects begun. Again, association could be in the first stages with one college and experiences shared with other colleges.

2 It is hoped that, under a plan at present being considered by the Faculty, undergraduate and graduate Education students will be able to complete their courses with an internship at selected schools throughout Papua New Guinea. Through these students experiments with curriculum and materials can be tried. The third year of the Secondary Social Sciences Course of Study would be a beginning for this type of experiment. Staff from the Faculty and the TMMC will of course involve themselves in this work as they visit the schools and supervise the work of students. Visits to these schools open up an opportunity for in-service training with staff at these schools.

FROM EMC TO TMMC 1967 - 1972 (Part II continued)

3 *A closer involvement of the TMMC in the use of materials in University course work and projects.* With four teams of subject specialists now working in the TMMC, greater opportunities exist for assistance to University staff. These opportunities will extend beyond those already available to and used by University staff. The possible development of external studies by the University may provide the TMMC with opportunities to develop and design materials suited to the particular conditions of external studies here in Papua New Guinea. A first start has been made in the Highlands by assisting with materials for adult education programmes sponsored by the University.

4 *A closer examination of the possibility of implementing a national system of materials centres.* Proposals for the systematic and integrated development of a system were made in 1969. A first step was the development of a materials and production centre at Goroka Teachers' College. However, the goal of a more extensive system still remains an attractive one. The work of the TMMC with another teacher training college in the Highlands will provide a different kind of experience which may help the Centre to judge the feasibility of these original proposals.

5 *A closer regional tie with other countries.* At the Sub-regional Conference on Curriculum Development, sponsored by the South Pacific Commission, UNESCO and the University of the South Pacific and held in Fiji in July 1971, a proposal was made for establishing a regional clearing house for the South Pacific for information on curriculum development, educational materials and educational research at all educational levels. The TMMC was seen to be an ideal locale for this clearing house. This role has been one long planned for the Centre. It is hoped that the Centre may develop this role within the immediate future.

6 *A close association with the Educational Research Unit.* The first appointments to the Unit have been made. It is expected that the

longfelt need might be met for curriculum development and materials design, to be based on research findings or at least to be followed up by close studies of what effects, if any, these changes have.

7 *The localisation of staff of the TMMC.* One staff member is at present reading for his Master's Degree at the Institute of Education, University of London. A second staff member is to undertake a three-month course at Monash Teachers' College in all aspects of the use of the V.T.R. As numbers of graduates from the University increase, research assistants will be appointed. Scholarships may be offered to undergraduate students so that they may work part-time in the Centre and pursue their studies. Both plans assume that one or two may wish to choose a University career, working either in the TMMC or the Faculty, but most will choose a career with the Department of Education in teacher education, curriculum development, and secondary teaching. The experience of the latter group at the Centre will provide the Department of Education with personnel trained in methods, media and materials work.

The above suggest some of the directions in which the TMMC will move in 1972. Experience over the past four years has justified a more intensive use of limited resources. By concentrating on teacher training, either through the University programme or those at a teacher training college, the limited resources may have the most influence. Excerpts from projects and activities given later in this report will show more specifically how progress in these directions will be made.

GRAHAM TREVASKIS
DIRECTOR TMMC

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

In 1971 the main work in English was in the general area of finding, storing and disseminating useful information to language teachers about methods and materials. Work was also done on developing techniques for assessing the language difficulty of publications; designing and testing materials for pre-school language learners; and devising a test of language ability for lower primary school children. At the secondary level a booklet *Phoneme Discrimination* was produced as a preliminary to much more experimental work in the general area of defining, identifying, and measuring differences in the competencies of first and second language speakers of English.

Recent work in linguistics has served to remind us how little rather than how much we know about language.

It must be admitted that much work in linguistics in the past has contributed little of value to language teaching itself, but such research could also have wider implications for countries where English is the second language medium of instruction. We are all aware that second language learners are under a handicap but the precise nature and extent of that handicap is largely unknown and urgently in need of investigation. Further, any information which can be gained from such investigations must have relevance for curriculum development and not only in the language learning field.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES:
ENGLISH (continued)

The following areas are at present being investigated in the TMMC:

1 The ability of L1 (first language) and L2 (second language) speakers of English to recognise the changes in meaning that alterations in stress, rhythm and intonation can produce. This study should be completed this year and will lead to the production of exercises designed to help the L2 speaker.

2 The syntactic complexity of the uncontrolled writing of L1 and L2 speakers of English at upper primary, lower secondary and tertiary levels. Again, it is hoped that the study will reveal the types of exercises which will help the L2 learner.

3 The collecting of errors commonly made by secondary school students in Papua New Guinea. These errors have been classified and remedial materials will be designed in the form of cards. Each card will deal with a specific error as follows:

(i) a brief explanation designed to assist the pupil in completing the remedial exercise correctly;

(ii) examples of correct usage;

(iii) an exercise to give practice in correct usage.

The cards should be introduced to the students when the language points are first taught. Thereafter the teacher can refer pupils to the card whenever that mistake occurs in their written work.

4 The provision of source material in the form of a collection of passages of special interest to Papua New Guinean students for use in intensive reading and speed reading programmes, and also in study skills programmes for forms three and four.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH (continued)

The following are other areas of comparison between L1 and L2 speakers of English that we would like to begin investigating:

1 The ability to recognise multiple meanings in ambiguous sentences.

2 Speed in naming everyday objects in pictures. Here the ability of L2 speakers of English could be compared with their ability in the vernacular. A series of similar tests might be developed which expressed language ability in terms of degree of bilingualism, i.e. how close the pupil's L2 ability approached his L1 ability. These might provide a better assessment of language ability as such than present tests which are competitive and do not eliminate such variables as intelligence, cultural background, general knowledge, attitude etc., all of which would be constant or relatively so under the tests proposed here.

3 The ability to transfer concepts acquired through the L2 to the L1.

4 The ability of L1 and L2 speakers of English to paraphrase.

5 The ability of L1 and L2 speakers to match paraphrases linked through various specified transformations.

6 It would be interesting too to investigate the hypothesis that L2 learners acquire their second language in a progression similar to that of children learning a first language.

The number of investigations that might be undertaken are limitless and the time available very limited indeed. However, we hope to open up some at least of these lines of investigation this year.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES
ENGLISH (continued)

Projects that we have developed in 1971 are described in the following pages:

(i) Describing English Language Teaching Materials

(ii) Developing Materials for a Pre-School Language Programme

(iii) Extending Reading in the High Schools

(iv) Analysing Levels of Language Difficulty in Publications

(v) Pidgin Literacy Programme

(vi) Contrasts in the Sound Systems of First and Second Language Speakers of English

(vii) Language Ability Test for Lower Primary School Learners of English as a Second Language

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(1) Describing English Language Teaching Materials

The project for the evaluation or description of teaching and learning materials in English is still in trial form.

The form on which materials can be described is in five sections:

General Information - source, price, quality of production etc.

Accompanying or Ancillary Materials - tapes, records, films etc.

Orientation - who is it intended for? level of student?

Presentation - what is in the text and what form?

Feedback - the type of activity required of the student in practising or exercising a particular skill

Sections 4 and 5 are designed as a matrix with the skills listed down the left-hand column and the means by which the skills are to be learnt or taught along the top.

The figure on page 14 shows one part only of the matrix covering *presentation* and only one of the skill areas - *reading*.

In the skills column we have recognised that there are two major tasks for the English teacher in a country where English is the second language medium of instruction. He must *service* the component parts of the medium of instruction - listening, speaking, reading and writing; but he must also be responsible for the traditional role of the language teacher in the first language classroom in developing reference skills, study skills and what we have described as *reasoning skills*.

PRESENTATION

	SUMMARY		FORM-ALITY SCALE			VISUALS									TYPE OF PRESENTATION												SUBJECT MATTER				
	USEFULNESS	COVERAGE	FORMAL	INFORMAL	NEUTRAL	ILLUSTRATIONS	MAPS	STAT. TABLES	DIAGRAMS	COLOUR	PHOTO	NATURAL	IMPRESSIONISTIC	ABSTRACT	RULES	PATTERNS	EXAMPLES	DRILLS	DRAMA	POETRY	NOVEL	SHORT STORY	LECTURE	ARTICLES	LETTERS	DESCRIPTION	BIOGRAPHY	FICTION	NON FICTION	TECHNICAL	SCIENTIFIC
READING																															
SHAPE DISCRIMINATION																															
L-R DIRECTION																															
GENERAL READING																															
SPEED READING																															
PROOF READING																															
COMPREHENSION	✓	A			✓				C													✓				✓		✓	✓	✓	

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(1) Describing English Language Teaching Materials (continued)

Materials are described in terms of the skills they teach and evaluated in terms of the relation between *coverage* (A,B,C) - the amount of materials devoted to a particular skill; and *utility* (X,Y,Z) - the value of the materials for use in Papua New Guinea. To avoid the necessity of writing ABC/XYZ in every square, a summary section is provided on the left of the matrix and a general indication of coverage and utility is given here. Thus only a tick is required in most squares, though where necessary, additional information may be given by utilising the ABC/XYZ scale. See for example markings in the section of a sample evaluation form given on page 14. The markings indicate some of the categories that would apply in a description of *English Comprehension Exercises for Schools in Africa*, Book 4, by J.S. and D.J. Hoyle, Evans Brothers, 1965.

Eventually by using a punch card system we hope to be able to retrieve information to compile quickly lists of available materials most suitable for teaching a skill or skill areas in a specific teaching situation.

A print-out of the information shown on page 14 would read across as follows:

> The material deals with Comprehension Skills (A - coverage), and could be used satisfactorily in PNG (Y - usefulness). The language used is appropriate (√ neutral). A small part of the presentation is based on diagrams (C - diagrams). The passages deal with fiction, non-fiction and technical subject matters. They are presented in the form of short stories and descriptions.

This section of the matrix can also present negative information - for example there are <u>no</u> illustrations.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(II) Developing Materials for a Pre-School Language Programme

A *Language Activity Programme for Pre-School Teachers* was designed and materials were tested at selected centres last year.

Materials for the programme were based on the story, *Father's Canoe* from the *Pacific Readers - Infant*, published by A.H. and A.W. Reed, New Zealand.

Working from the story, *Father's Canoe*, flannelgraph materials, puppet figures, picture cards and sets of matching cards were designed for scenes, objects and people in the story. Activities were then suggested for the use of these materials. For example, once the teacher had read the story the children were then asked to follow directions given by a puppet figure who represented one of the characters in the story.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(II) Developing Materials for a Pre-School Language Programme (continued)

In another activity children were given a set of cards (shown below) and children with a certain card, for example *canoe*, would be asked to stand next to their group leader or teacher.

The programme was designed to give teachers ideas for creating their own materials; encourage children to talk about their own experiences by learning in the context of an environment similar to their own; and stimulate oral language development in an entertaining way.

The programme will be further tested this year and revised. We hope then to make it more generally available for training teachers of pre-school and lower primary children.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(III) Extending Reading in the High Schools

With the growth of school libraries in secondary schools in Papua New Guinea it seemed useful to provide teachers with a list of books that could be suitable for students of English as a second language and to give descriptions of each book listed.

To this end a booklet entitled *Extensive Reading for High Schools - An Annotated List of Books*, was produced and distributed to secondary schools and teachers' training colleges in this country.

EXTENSIVE READING FOR HIGH SCHOOLS

an annotated list of books

Most of the books described were from simplified and/or abridged series, as well as series designed for students from developing countries, for example, *African Readers Library*.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(III) Extending Reading in the High Schools (continued)

The project was carried out in conjunction with the Materials Centre at Goroka Teachers' College and books described were chosen from among those available at both centres, thus the list could not claim to be comprehensive.

As we pointed out in the introduction to this booklet the descriptions were not meant to be read as evaluations or as being prescriptive. Ultimately it was for the individual teachers to decide on the basis of their knowledge of the interests and language ability of their pupils which of the books described would suit their classes. Below is an example of one of the descriptions:

NEW WINDMILL SERIES

THE BOY WHO WAS AFRAID A. SPERRY 95pp HEINEMANN 95¢

Card cover, sewn, with 10 full and 11 half page illustrations.

There is no stated control of language structure or vocabulary although the style is slightly archaic and some vocabulary may need to be explained, it should cause little difficulty.

A traditional story from Polynesia telling how a teenage boy overcomes his fear of the sea by facing its dangers. Concerns the problem of acceptance of brave men in primitive societies and the difficulties that a coward must face.

Suitable for middle and upper secondary students. (D.I.)

It is intended this year to produce the first supplement to this list.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(IV) Analysing Levels of Language Difficulty in Publications

Although both sets of materials were produced for second language speakers of English, the aims of the publications were so different that a completely different approach had to be made to the analysis of language difficulty in each case.

THE RESERVE BANK PUBLICATIONS

The Reserve Bank materials were designed as an introduction to the functions of banking. The analysis took account of vocabulary, structure, and conceptual difficulty. The following illustrates the recommendations that were made:

Vocabulary Difficulty

(a) *A General Service List of English Words*, edited and compiled by M. West, Longmans, was recommended as a guide to general vocabulary level. Examples of low frequency words in the text for which high frequency words could be substituted were *function, maximum, distribute.*

(b) Examples of idioms considered likely to cause difficulty were *find the money, it would not do to . . .*

(c) It was also suggested that where possible, technical terms like *Government securities, short term needs, to maintain your account* should be avoided, and that where technical terms like *account, deposit,* etc. were unavoidable they should be given a very simple explanation in a glossary.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(IV) Analysing Levels of Language Difficulty in Publications (continued)

Structural Difficulty

The general level of structural difficulty in the Reserve Bank booklets was satisfactory. One of the major difficulties faced by the writer of such materials is illustrated by the following extracts from the report:

> "Perhaps the most constructive way to illustrate structural complexity would be to take examples of sentences in the texts which are highly complex. It is often the case that syntax or structure becomes most complex at precisely that point in the text where the writer wishes to be most clear and most precise. A good example of this occurs in the booklet "What is Wealth", on page 10.
>
> (i) The point we want to make is that everyone who has had anything to do with the making of a motor car - from producing the raw materials to the final task of assembling the parts - must be paid wages by the people who own and manage the many factories engaged in the industry.
>
> The sentence need not be long in order to be complex:
>
> (ii) 'The more people save in banks, the more money banks will be able to use in this way.'
>
> Sentences may also be simple and yet problems of understanding arise for the second language speaker of English from the internal (anaphoric) reference:
>
> (iii) 'The Bank helps the government to develop the exonomy by guiding the financial system. It may do this by supervising the way in which banks lend money - it may tell banks how much they can lend and for what purposes. This applies particularly . . . it would not do for the Central Bank . . . .

Conceptual Difficulty

The importance of audio-visual material and games was stressed, and the need to relate to known and relevant situations. The problem here is very great indeed. For example: how does one teach the concept of *profit* in an area where trade stores are status symbols, run at loss and subsidised by the owner from paid employment?

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(IV) Analysing Levels of Language Difficulty in Publications (continued)

Conclusions

It was concluded that the materials would be most suitable for middle and upper secondary schools, and that the need to communicate with primary school leavers and others might best be met through specially prepared Pidgin[1] materials, since a single literate Pidgin speaker might influence a whole community where a dozen fluent English speakers would have no effect.

THE DEPARTMENT OF AGRICULTURE

The field officer's manual being prepared by the Department of Agriculture is intended as reference material for second language speakers of English who have received three years specialised job training in addition to four years of secondary education. The problems of concepts and of technical vocabulary could therefore be discounted.

The materials submitted were evaluated in terms of the recommendations of a report on the previous extension manual[2] to determine whether these recommendations had been successfully implemented; and also in terms of the structural complexity of the language, which had been shown to be unnecessarily high in the original version of the manual.

---

[1] Melanesian Pidgin - the most widespread lingua franca in Papua New Guinea.

[2] *Evaluation of the Extension Manual of the Department of Agriculture, Stock and Fisheries*, prepared by Dr G.A. Trevaskis for the Materials Centre, December, 1969.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(IV) Analysing Levels of Language Difficulty in Publications (continued)

Content of the Revised Manual

The following suggestions were made:

(i) The contents and use of the manual should be integrated into the officer's training course.

(ii) A glossary of terms should be prepared.

(iii) Key words and phrases in the text should be underlined.

(iv) An index should be prepared.

(v) Practical *field* examples should be used to illustrate the theory.

In general it was felt that the revised draft was less practical and functional than was desirable.

Language Readability

The *readability* index, designed to show the level of syntactic difficulty of a passage, takes into consideration the following three factors:

(i) average number of words per sentence;

(ii) *density* of communication per sentence (approximately, the number of *decoding* operations the reader makes in order to obtain the meaning of a sentence);

(iii) average number of *complexities* per sentence (in general, a complexity is equivalent to a major deviation from the normal syntactic ordering of a basic English sentence).

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(IV) Analysing Levels of Language Difficulty in Publications (continued)

These three factors are expressed as an equation which gives the readability rating for the particular passage.[1]

$$\frac{1}{2 \times 3} = \text{Readability rating}$$

Some suggestions were made for the simplification of language structure, but on the whole the analysis showed that the revised draft for the manual had a much higher readability rating than the original manual, and we were able to confirm that the revision was proceeding successfully in this respect.

In 1972 some of the techniques developed for this project will be further tested - particularly those relating to syntactic difficulty. It is hoped that they will be used in describing reading materials - project (III) and in the analysis of differences between the competencies of first and second language speakers of English.

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[1] The readability index has shown itself to be encouragingly reliable and is being used in continuing research on the differences in language competence between first and second language speakers of English.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(V) Pidgin Literacy Programme

The Teaching Methods and Materials Centre agreed to provide instructional materials and advice on teaching methods for the Pidgin Literacy Programme of the Education Society of the University of Papua and New Guinea.

The members of the society (primarily students in the Faculty of Education) wished to be involved in community education and at the same time to undertake a project which could have value for education in general in Papua New Guinea. Adult education has long been neglected, largely because of the barrier imposed by the use of English as the medium of formal education. The decision to use Pidgin was based upon two major considerations:

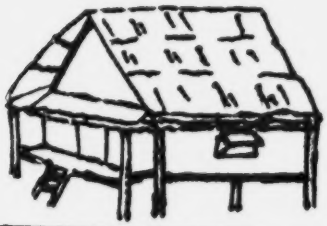
1 Pidgin is the most widely used language in Papua New Guinea.

2 The perfect correspondence between phoneme and grapheme (i.e. the Pidgin alphabet corresponds exactly to the sounds of the language) should make it a simple medium for achieving basic literacy.

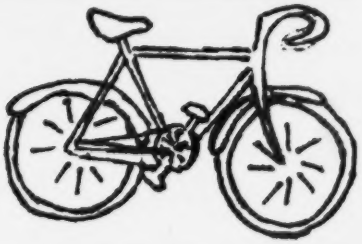
DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(V) Pidgin Literacy Programme (continued)

Rr rat



Hh haus



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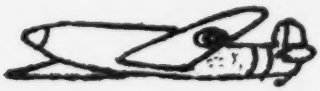

Bb balus

The materials produced by the Centre will be taught by Pidgin-speaking undergraduates and the learners will be illiterate, Pidgin-speaking members of the University staff.

If it proves (as hypothesised) that basic literacy can be achieved in Pidgin over a 4 to 6 week course (one hour per day, five days per week), the project will be further tested, hopefully in a village situation in a Pidgin-speaking area, with a view ultimately to establishing a major literacy campaign throughout Pidgin-speaking areas.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(VI) Contrasts in the Sound Systems of First and Second Language Speakers of English

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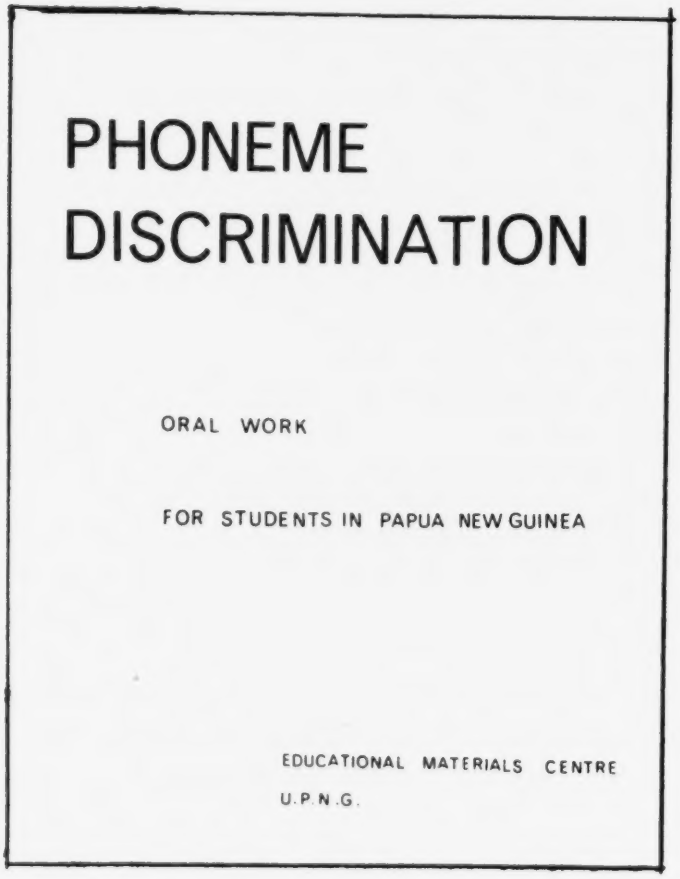
The problem areas in the phonemic systems of English speakers in Papua New Guinea were contrasted and a booklet prepared to give Secondary students practice in these areas.



An introductory chapter outlined the problem areas in the phonemic systems of Papua New Guinea students and a section was included on how to use the booklet, suggestions for further activities and notes on testing and exercising.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(VI) Contrasts in the Sound Systems of First and Second Language Speakers of English (continued)

The booklet consisted of lists of minimal pairs which illustrated the phonemic contrast to be exercises: e.g. *beat bit; seed said;* and exercises were included to test the students' ability to discriminate. The exercises contained ambiguous sentences, with the teacher reading one word from the pair listed and the student determining which word was said. The following illustrates the presentation:

/s/ /z/

hiss his	peace peas	cease seize
niece knees	lice lies	price prize
device devise	advice advise	rice rise
mace maize	grace graze	lacy lazy
bus buzz	pace pays	ice eyes
fierce fears	dose doze	hearse her's
course cause	fleece fleas	loose lose
force fours		

The only thing the audience did was _____. (hiss his)

"_____ it", he ordered. (cease seize)

Surely your _____ won't collapse? (neice knees)

I can't stand _____. (lice lies)

Can you tell me what the _____ is? (price prize)

The _____ in the ground here was remarkable. (rice rise)

The _____ needed to be looked after. (mace maize)

I've seen a lot of _____ things around here. (lacy lazy)

There is nothing colder than her _____. (ice eyes)

It isn't a good _____. (course cause)

It is hoped to produce a less extensive booklet on **Stress, Rhythm and Intonation** as investigations are made into the differences between the competencies of first and second language learners of English.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(VII) Language Ability Test for Lower Primary School Learners of English as a Second Language

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The Need

Where a second language is the medium of instruction, there can be no learning until that medium has been functionally established, just as there can be no communication by telephone until the lines have been laid. It is vital then that basic communication should be established as quickly as possible, and on this there can be no disagreement. There is a great deal of disagreement however on the most effective means to bring this about. *Expert* opinions support both the extremes of total control and total avoidance of control and include about every intermediate position between the two. If any valid conclusions are to be reached, we must have a research tool to investigate language proficiency at this level in terms of general ability to communicate; and these tests must be devised in such a way that they test neither reading nor writing skills, which are as yet undeveloped or barely developed.

The following pages identify the test areas which need to be considered and suggest a number of test structures for trial.

General Fluency

Productions

Situations, i.e., the subject is in a strange city and has to ask his way.

Picture stimulus, i.e., the subject is given a certain length of time to study a picture (or series of pictures telling a story) and is then asked to talk about them and then rated for Vocabulary, Pronunciation and Structure.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(VII) Language Ability Test for Lower Primary School Learners of English as a Second Language (continued)

Comprehension

Carrying out a number of orders, i.e., *Put this book on the chair.*

The Phoneme System of English

Production

Repeating sentences which are checked for specific contrasts, i.e.

Jack always enjoys good food (u: contrast)

Marked on a three point scale:

2 = Native lib. 1 = Adequate 0 = Inadequate

Pupils are asked to identify pictures which involve minimal pairs (i.e. *ship/sheep*) and are marked on ability to make the differentiation.

Phonemes - The Sound System of English

Reception

True/false, i.e. *A ship is an animal.*

Examiner pronounces a *problem* word, i.e., *ship*, and asks the pupil to make up a sentence using the word.

Stress, Rhythm and Intonation

Production

Repeating sentences which are checked for specific contrasts, i.e.,

John is reading his newspaper. (Primary stress on *news*).

Reception

Pupil is required to distinguish between such minimal pairs as *blackboard* and *black board.*

Take a basic statement, i.e. *Mary had a little lamb,* and ask subject how the meaning changes with different stress emphasis, i.e.

Mary had a little lamb,

Mary had a little lamb, etc.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: ENGLISH

(VII) Language Ability Test for Lower Primary School Learners of English as a Second Language (continued)

Morphology

Situations/pictures designed to ilicit knowledge of morpheme structure rules of English.

(a) Positive/Negative pairs
happy/unhappy

(b) Base form/past tense form

(c) Noun form/adjectival form, etc.

Grammatical Structure

Questions are designed to ilicit a particular response:
i.e. for past tense, *Tell me about what you did on your way to school this morning.*

Translation: vernacular to be translated into English. The translation is of an idea rather than word for work, i.e. a message is to be communicated.

Vocabulary

Pictures of everyday objects to be named.

Pictures to illustrate relationship words: *on, under,* etc.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

In 1971 the main activity in Science in the Teaching Methods and Materials Centre was concentrated on the evaluation of Phases I and II of the Three Phase Primary Science Project. This involved visits to and observation of work in primary schools; teacher interviews; concept development testing; and the analysis of questionnaires and observation reports.

It is hoped in 1972 to extend the activity of the Centre in Science. For the first time there is a research assistant available to the section. Again the Three Phase Primary Science Project will be the main focus of activity first through an evaluation in depth of Phase III of the project including a close look at the teachers' and pupils' grasp of the concepts involved, and, second through the design of materials that will enable teachers to develop and extend activities in Phases I and II.

Involvement at the high school level will begin with a survey of the accessibility and use of materials for science teaching in Papua New Guinea high schools.

It is hoped too to extend the Centre's work in providing advice and information through the preparation of descriptive profiles of science materials now on display in the Centre.

In the following pages two projects are described in detail:

I) Three Phase Primary Science Project Evaluation

II) Observing a Coral Reef - Preliminary School Trials

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(1) Three Phase Primary Science Project - Evaluation

Three Phase Primary Science (T.P.P.S.) is a new science course designed for Papua New Guinea primary schools with the support of UNICEF and UNESCO. It was piloted in 30 Papua New Guinea primary schools in 1969 and has since been extended to about 450 schools. Schools are provided with a set of cards for their science teacher who has been trained either in pre-service or in-service courses to teach T.P.P.S.

There is one card for each lesson and a kit of simple science materials. One of the teachers' cards is reproduced on page 34.

The evaluation of Phases I and II of T.P.P.S. in standards I, II, III, and IV of the primary school began during third term 1970. The major part of the evaluation is done by head teachers in their own schools observing T.P.P.S. lessons. The head teacher uses an observation form developed in the Teaching Methods and Materials Centre. Head teachers observed and reported on most lessons but Teaching Methods and Materials Centre staff also observed lessons while visiting schools in various parts of Papua New Guinea.

Two pages of the Observation Form are reproduced on page 36.

Here is an extract from an account of a lesson observed. It is reproduced here to give some idea of the nature of the T.P.P.S. course and of the evaluation procedures.

> The lesson scheduled for observation was *Let's Burn a Candle Under a Jar*, Phase IIa, No. 30. The observer had previously met and spoken with the Head Teacher. The Science Teacher had agreed to being watched for the evaluation.
>
> It was now 1 o'clock on a Friday afternoon and a standard 4 class was assembled for its weekly Science lesson.
>
> The teacher introduced the observer to the class and suggested a suitable place from which to watch the lesson without making her presence too obvious.

ORGANIZATION

Groups
Demonstration

LET'S BURN A CANDLE UNDER A JAR

You will need:

- ten (10) large containers of water
- (10) pieces of candle (about 1½ inches long)
- ten (10) pieces of cardboard (about 4 inches x 4 inches)
- ten (10) glass jars
- matches or one burner and ten (10) thin sticks for lighting the candles

Do this:

1. Tell the children to light their candles and stand them firmly on the cardboard, using melted wax.
   Blow out the candle.
2. Tell the children to wet the top surface of the cardboard.
3. Tell the children to light their candles again, cover them with a glass jar and watch carefully what happens.
4. Tell them to see how many times they can let the candle go nearly out and then burn brightly again by lifting the jar a little bit and putting it back. See which group can do it the most times without the candle going out.
5. **Demonstrate:**
   Cover three or four burning candles with jars of different sizes. Ask the children to guess which candle will go out first.
6. Discuss the experiment with the children and see if they can tell you that a candle will burn for only a short time in a small amount of air.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(I) Three Phase Primary Science Project - Evaluation (continued)

The teacher had collected the apparatus listed on the card, the children were eager to begin their activities and little time was wasted in getting started.

Clear instructions were given to the children and they were shown how to set up their candles and jars. Some confusion resulted from the instruction to wet the top surface of the cardboard but the children watched each other until a sensible procedure was found.

Following Activity 3 one child asked:

Why did the candle go out?

The teacher sought an answer from the children and by careful questioning they arrived at the conclusion that the air was used up.

Great excitement ensued during Activity 4 when the groups entered into the competition so avidly that accusations of cheating were heard! The teacher visited the groups as they worked encouraging the children to talk about the activity. Before beginning the demonstration the teacher quietened the class whose enjoyment and interest were evident by the volume of noise.

They discussed the activities, examined the demonstration apparatus and attempted to predict the outcome. Excitement was high as candles were lit and hurriedly covered. Some children wanted to know:

Why didn't the flame go out so quickly in the largest jar?

This was correctly answered by fellow pupils. Then came the questions:

Can air be used from a sealed room? Can the air be stored in a cage, or in a room?

Then there was more discussion. At 1.40 the children returned to their classroom.

Throughout the lesson the observer completed appropriate sections of the observation form and at the end discussed the lesson briefly with the teacher in order to get the remaining information she needed to complete the form.

10. How long did the pupils generally [illegible] in their activities

1 ☐ less than 2 minutes

2 ☐ 2 - 3 minutes

3 ☐ 3 - 5 minutes

4 ☐ over 5 minutes

11. To what extent did pupils talk amongst themselves during the lesson?

1 ☐ a lot

2 ☐ quite a lot

3 ☐ not very much

4 ☐ hardly at all

12. Did you hear any vernacular language used during the activity?

1 ☐ yes

2 ☐ no

If the answer is 'no' ignore questions 13 and 14.

13. Who used this vernacular language?

1 ☐ teacher

2 ☐ pupils

3 ☐ both pupils and teacher

14. When was this vernacular language used?

1 ☐ generally during the lesson

2 ☐ quite frequently during the lesson

3 ☐ rarely - during an exciting moment

4 ☐ rarely - to aid understanding

15. Apart from wanting to know what to do, did pupils ask the teacher any questions about what they were doing?

1 ☐ yes

2 ☐ no

If you answered 'yes', write here two questions you believed to be significant:

1. [illegible]

2. [illegible]

If the answer to question 15 is 'no', ignore questions 16 and 17.

28. How was the record made?

1 ☐ as a diagram

2 ☐ as notes

3 ☐ as diagram and notes

29. How long did it take to get the class ready for their next lesson?

1 ☐ less than 2 minutes

2 ☐ 2 - 5 minutes

3 ☐ more than 5 minutes

30. At the end of the lesson, ask the teacher whether he has taught this lesson before.

31. Ask the teacher if this is his first, second or third year of teaching the UNICEF PRIMARY SCIENCE COURSE.

1 ☐ it is his 1st year

2 ☐ it is his 2nd year

3 ☐ it is his 3rd year

32. Ask the teacher if he feels that this particular lesson had any special difficulties, e.g. organising the pupils, maintaining pupils' interest, obtaining equipment etc. List here the difficulties, if any:

Some children misunderstood the instruction to use the card and the photograph on the card is misleading

THE LESSON

Think of the lesson as a whole. Put a tick in the appropriate column to show how you would judge this aspect of the lesson.

	1 yes	2 generally yes	3 generally no	4 no
33. organisation suggested on card closely followed	✓			
34. pupils were active for the whole of the activity part of the lesson	✓			
35. pupils understood what they were doing	✓			

Two sections from the six page form that primary school head teachers use for observing lessons in Phases I and II of the Three Phase Primary Science Course.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(1) Three Phase Primary Science Project - Evaluation (continued)

In June 1971 an Interim Report on the evaluation was prepared. This was based on a computer analysis of observations of 872 T.P.P.S. lessons from 147 schools. The report was widely distributed to the Department of Education, Teachers' Colleges and Curriculum Advisers in each district. In addition a shortened version of the report was prepared and distributed to all the schools which had taken part in the evaluation. A crucial element in the evaluation was that a vigorous attempt was made to involve as many schools as possible - not just those within easy reach of the University or Teachers' Colleges but every school teaching T.P.P.S. In the final report it is hoped to produce an analysis of differences between urban and isolated rural schools with respect to T.P.P.S.

The Interim Report covers availability of equipment, the organisation of T.P.P.S. lessons and pupil and teacher behaviour as revealed by head teachers' observations. Also a lesson by lesson analysis is being made of 20 of the 120 lessons which it is hoped will show up strengths and weaknesses of individual lessons and be of value to teachers, Teachers' College staff and those engaged in revision and improvement of the course.

The conclusions of the Interim Report (which are of course tentative at this stage) read in part as follows:

> The results obtained from the reports of T.P.P.S. lessons received from third term 1970 appear to indicate a course which is operating in the schools as the designers of the programme intended. All the required equipment is available for the great majority of lessons (76%). This figure, however, takes no account of lessons which are not taught because of lack of materials.
>
> Classroom and school organisation of the course runs smoothly. Teachers cope with the materials and methods required although their lack of science background restricts their ability to answer student questions. Above all, children take part in the science activities with considerable interest and enjoyment.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(1) Three Phase Primary Science Project - Evaluation (continued)

There must however be some disquiet at the number of schools listed as teaching T.P.P.S. which are not in fact doing so and, in particular, as the number of science kits which have been allocated to schools but have not reached them. Another area where expectations are not being realised is in the ability of the course and the teacher to stimulate student questions. While there is a reported increase in student questions from Phase I (standards 1 and 2) to Phase II (standards 3 and 4) it remains small even in Phase II. Observations of T.P.P.S. lessons suggest that this may not be as serious as the figures indicate as animated discussion among pupils about what they are doing is often observed but these rarely develop into questions actually directed to the teacher. Perhaps the teachers' difficulties in answering questions may in part account for this. A more likely explanation however is that children at home and at school are not generally encouraged to ask questions of elders or teachers. It was perhaps too much to expect half an hour of science a week to make much difference to this attitude.

It is worth noting that observers reported that in only 57% of the lessons observed where activity was called for pupils were in fact active. Sometimes this reflects the fact that when working in groups of four, only one or two of the children have anything to do. But more important perhaps it indicates the lack of ability of many teachers to extend the activities or indicate further pupil activity beyond those suggested on the card, which apparently in some cases are inadequate.

Finally the above reservations are not intended to detract in any way from the fact that the basic form and content of the T.P.P.S. course have been found generally successful in operation, and pending an investigation of the effects of the course on pupils, should be retained.

In particular the course is proving successful because from the beginning it was constructed with the needs and ability of the *teachers*, as well as of the pupils, very much in mind. The present T.P.P.S. course is making demands on teachers which they are able to meet. But many have little to spare (viz their inability to answer student questions or develop activities to keep children busy throughout the lesson). It is thus essential that any future development of the T.P.P.S. course which demands more of teachers in terms of teaching skills or understanding of science be accompanied by appropriate measures to prepare teachers to meet these demands.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(1) Three Phase Primary Science Project - Evaluation (continued)

At the time of writing (March 1972) the collection of data is complete and the final processing is under way. There remains the analysis of the data and the preparation of the final report which will include the results of a survey of T.P.P.S. teachers. A start has also been made in testing the effects of the course on pupils and this will be extended when the evaluation of Phase III (standards 5 and 6) of T.P.P.S. gets under way during 1972.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SCIENCE

(11) Observing a Coral Reef

These materials were prepared by John Penbury, a particularly successful science teacher in a high school near Port Moresby, for his own use.

Encouraged by a lecturer in Science at this University, Mr Penbury asked the TMMC to assist him in finding a format that could make the material useful to other science teachers. The Centre agreed to do this and to try the materials in a number of high schools.

The materials consist of:

Teacher booklet - *Observing a Coral Reef*
Set of 50 slides
Echinoderm Classification Keys 1-4 (Student sets and overhead transparencies)
Distribution Exercise Worksheet (Student set)
Distribution Exercise Diagram (Student set and overhead transparency)
Student Excursion Sheet (Beach grid) (Student set and overhead transparency)

Three sets of these materials were distributed to high schools. The teachers welcomed them especially the slides. They saw the materials as a basis for a useful local project for students - the type of project which is currently asked for and encouraged by the *Secondary Science Syllabus*.

Major criticisms from teachers after using the materials were:

written material was difficult to follow;

the details and objectives of the techniques in marine biology described were not clearly stated.

It seems that the work done on this programme and in particular the slides produced form the basis of several useful secondary science projects in Papua New Guinea. The material allows teachers to develop a programme

according to their own and their pupils needs and interests. Unfortunately the present organisation and presentation is found confusing and frustrating by both students and teachers. Careful thought needs to be given to a reorganisation of the materials and in particular to the provision of clearer information as to the nature, methods and purpose of the techniques in marine biology which high school students are expected to use. A teacher without a good background in marine biology would have considerable difficulty with the material as it stands.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

The following are general directions in which projects in the Social Sciences will go in 1972:

1. Evaluation

   a. A systematic review of Years 1 and 2 of the *Secondary Social Science Project* will be planned, foreshadowing revision to topics in 1975 and 1976. The activities associated with this review will involve not only teachers and TMMC staff, but also undergraduate and graduate students who will participate in the review as part of their *Methods, Media and Materials Course in Social Science*. The first of the activities will centre on Year 1 topics and will make use of observation schedules.

   b. A systematic review of the *Social Science Project of the Waigani School* will determine the suitability of materials prepared in 1971 for a standard 5 - 6 division of levels. Further, the approach to the course of study will be examined to modify its present structure from individually prepared materials for pupils to resource kits for pupil and teacher. More activities which have themselves been determined from the resources provided will be designed for students.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES:
SOCIAL SCIENCE (continued)

2. Materials Preparation

a. The Centre will assist form 3 teachers in trial schools by attaching undergraduate students to them as *Curriculum Research Assistants*. The undergraduate students will assist the trial school teachers in the preparation of materials. This professional work of curriculum development will form part of the course work in *Methods, Media and Materials in the Social Sciences*.

b. Plans have been drawn up to give assistance in materials development to teacher training college lecturers. Pilot units of study in the Social Sciences will be tested at Holy Trinity Teachers' College, Mount Hagen. After review and modification these units will be distributed to other primary teachers' colleges.

c. Requests from training institutions from Government departments other than Education will involve the TMMC in modification of the materials of the *Secondary Social Science Project* for students of these institutions.

3. Workshops

a. A workshop entitled *Teacher Education Curriculum for the South Pacific with special reference to the Social Sciences* is to be jointly sponsored by the South Pacific Commission, UNESCO and the University of Papua and New Guinea. The main concern of the workshop will be what to include in a teacher education programme. What knowledge and skills do teachers in the South Pacific region need, and how can they best be helped to acquire them?

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES:
SOCIAL SCIENCE (continued)

The special reference to the Social Sciences will be covered in two main ways. Consideration will be given to the handling of Social Science both as a subject for teachers in training *to study* as part of their own education, and also as a subject for them *to learn to teach* to their pupils.

b. As in previous years, staff will participate in Seminars in the Social Sciences, sponsored by the Department of Education for secondary teachers and for teacher training college lecturers.

4. Consultant Services

With the establishment of a Board of Studies for each teacher training college, representation of TMMC staff on the Board will extend their work in the Social Sciences to such areas as course development, teaching methods, use of materials, evaluation and so on.

In the following pages two major projects in Methods and Materials for Social Science are described:

(I) Secondary Social Science Project
(II) Waigani Social Studies Project

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(1) Secondary Social Science Project

Over the past twelve months the Centre's work in the Social Sciences has been directed mainly towards the new course in Social Science which has now been introduced to all forms 1 and 2 in high schools in Papua New Guinea. The Teaching Methods and Materials Centre has prepared all the materials used in the classroom in the first two years of this course. For each topic there are class sets of printed sheets for each student. For the teachers there are Teachers' Guides, of varying length, in ring binders. As well as the guides there are for most topics accompanying sets of slides, tapes and other classroom activity materials.

There are Teachers' Guides and accompanying audio-visual and activity material for the following topics:

First Year Topics

Individual, Group and Community
Self Study
The Family
The School
The Village
Studying a Community
Studying Your Community
The European in Papua New Guinea
Individual, Groups and the Newspaper

Second Year Topics

Change in the Individual
Change in the Family
Change in the Community
Development in Papua New Guinea
Development in Japan
Indonesia : Aspects of National Development
The Great Powers
The United Nations

For a more detailed description of the Secondary Social Science Syllabus and the materials, write to:

Research Assistant
Social Science
Teaching Methods and Materials Centre
University of Papua and New Guinea
Box 1144
BOROKO PAPUA NEW GUINEA

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(1) Secondary Social Science Project (continued)

In 1972 the topics from term 3 in the second year will be revised after comments from all the trial schools have been received. Then it is hoped to look very closely at what is happening in forms 1 and 2 when it is being taught. Some method of getting observers to report in detail on certain lessons throughout the year will be devised and additions and revisions will be made to the materials and methods in the next two years.

The whole project is seen as a form of in-service education for teachers in the high schools. New ways of teaching are introduced and it is hoped that teachers who have used the guides for two years will have increased their teaching repertoire and at the same time resources for students and teachers in the schools will have been substantially increased.

Here is a comment from a University lecturer in Education which does in fact describe our proposed activities in this project for 1972. The syllabus is designed to cover four years. This lecturer's plea is to concentrate in the next two to three years on the first two years only. He says:

> My personal judgement based upon some contact in the field and with the project is that it may be best to review and revise forms 1 and 2 for the next three to five years. We need to assess the syllabus after a few more years in the field. Initially the Hawthorne effect may have stimulated teachers to accept the new syllabus. But I detect some possibility that materials may be used as workbooks - busy work for lazy and/or uninformed teachers to distribute to their pupils.
>
> The present 2 - 2 system makes it possible to pause at the end of form 2 and reassess the first two years. Additional units of Geography and History could be phased in at this point.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(1) Secondary Social Science Project (continued)

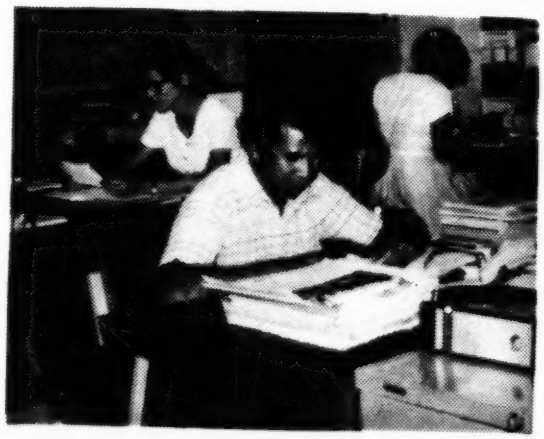
But considering international and economic problems, internal political development, rising social disorder, as well as staffing problems, my judgement is to pause, reassess and continue form 3 in three to five years.

CAL ZINKEL
Senior Lecturer
Faculty of Education
University of Papua and New Guinea

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY

Change in the Marshall Lagoon Community

Change in the Marshall Lagoon Community is PART C in the topic - *Change in the Community*. It is studied at the end of term 1 in the second year of Secondary School. The material for this topic was collected by Renagi Lohia a recent graduate of this University and a research assistant in the Teaching Methods and Materials Centre. He visited the area with camera and tape recorder. He gathered the data in December, 1970. The final edition of this topic was produced in February, 1971 and printed and distributed by *Schools Publicatons Branch of the Department of Education.* The materials were used by second form teachers and their students in eleven trial schools during 1971 and subsequent amendments were made in the Teaching Methods and Materials Centre in November and December, 1972.



RENAGI LOHIA, Research Assistant at work in the Centre.

The extracts used in this case study are taken from *Teachers' Guide, Part 2, Year 2, Term 1, Topic 3.* The first sections are reproduced here to provide an idea of the context in which PART C of the topic *Change in the Marshall Lagoon Community* appears.

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY - page 11

Change in the Marshall Lagoon Community

TOPIC 3 - YEAR 2 - TERM 1: AN OVERVIEW

GENERAL AIMS

The general aims of this topic are:

1. to extend the studies of the community undertaken in Topics 1.2.1, 1.2.2, 1.2.3 and 1.3.1 in the first year of the course.

2. to extend the students' understanding of the concept of 'community' by studying the types and effects of change on the community.

3. to understand change in the community by looking at an example of change that has already taken place; by planning for change; and by predicting the consequence of change in a community.

4. to extend understanding of the concepts of 'tradition', 'values' and 'technology' studied in Year 1 and to introduce students to the concept of 'choice between goals'.

5. to continue to extend the students' experience with methods of enquiry used by the social scientist.

SUGGESTED ORGANISATION

A suggested organisation for the 33 periods for this study is:

	STUDY	NUMBER OF PERIODS
A	*Change in a Soviet Community*	10
B	*Planning for Change*	10
C	*Change in the Marshall Lagoon Community*	10
D	*Thinking About Change in the Community - A Su-gested Test*	3
	TOTAL NUMBER OF PERIODS	33

TOPIC 3 - YEAR 2 - TERM 1: AN OVERVIEW

AIMS OF THE STUDIES OF THE TOPIC

Change in a Soviet Community

The aims of the study of *Change in a Soviet Community* are to introduce students to the types of change that took place in a community over a period of time, the individuals and groups affected by these changes and the importance of these changes. The basis for the study is a village studied from the pre-revolutionary to the post-collective period in Soviet history.

Planning for Change in a Community

The aims of *Planning for Change in a Community* are to help students understand some of the principles involved in planning for change and students are asked to apply these principles to a project planned for their own community - the school.

Change in the Marshall Lagoon Community

The aims of the study of *Change in the Marshall Lagoon Community* are to let students examine a community, look for the signs of change in the community through a slide-commentary presentation, and then predict what changes may take place in the future. This prediction is based on the evidence of the slides and commentary, a set of statements made by people in the community and principles learned in the previous two parts of this topic.

Thinking About Change in the Community - A Suggested Test

The aims of the suggested test are to let students apply four examples of change to the three studies they have completed and to evaluate the importance of one of these examples within the context of one of these three studies.

TOPIC 3 - YEAR 2 - TERM 1: TEACHING THE TOPIC

MATERIALS SUPPLIED

Materials supplied for this part of the topic are:

- a *set of 24 slides* on the Marshall Lagoon area
- a *map* of the Marshall Lagoon area
- a *set of statements* made by people who live in the Marshall Lagoon area

AIMS OF THE STUDY OF CHANGE IN THE MARSHALL LAGOON COMMUNITY

The aims of the study of *Change in the Marshall Lagoon Community* are to let students examine a community, look for the signs of change in the community through a slide-commentary/presentation, and then predict what changes may take place in the future. This prediction is based on the evidence of the slides and commentary, a set of statements made by people in the community, and principles learned in the previous two parts of this topic.

SPECIFIC OBJECTIVES FOR STUDENTS

There are specific objectives for students in their study of *Change in the Marshall Lagoon Community*. These objectives are:

1. to know what things groups and individuals living in the community of Marshall Lagoon have in common.
2. to identify the changes that are evident in the community.
3. to understand the reasons for the changes that are taking place in the community.

TOPIC 3 - YEAR 2 - TERM 1: TEACHING THE TOPIC

4. to predict changes that may take place in the community, by applying an understanding of what changes are taking place already in the community.

5. to test understanding of objectives 1 - 4, through discussion and activities.

PREPARING TO USE THE MATERIALS

In their study of *Change in the Marshall Lagoon Community*, students will be called upon to use certain materials. These materials require students:

1. to interpret a set of slides with an accompanying spoken commentary.

2. to interpret a map of the Marshall Lagoon area.

3. to interpret a set of statements made about the Marshall Lagoon community.

4. to predict change in the Marshall Lagoon community based on evidence given in a set of photographs.

PREDICTING CHANGE FROM EVIDENCE GIVEN IN THE SET OF SLIDES

The basis for predicting change in the Marshall Lagoon community is the set of slides. The number of the slides suggested for this purpose are: NUMBERS 1, 4, 5, 8, 9, 11, 20, 23. A suggested guide to help students predict changes in these slides is:

1. Ask students to identify again what the slide shows and where it was taken in the Marshall Lagoon area.

2. Ask students to identify again things shown by the slide and that have already changed.

3. Ask students to select the most important of these changes and try to decide how these may change in the time period specified.

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY - page 62

Change in the Marshall Lagoon Community

TOPIC 3 - YEAR 2 - TERM 1: TEACHING THE TOPIC

Lesson 7
Lesson 8

1. *Introduce* the two lessons by noting that students will examine statements made by certain people in Marshall Lagoon about their community.

2. *Distribute* the sheet of statements.

3. *Divide* the class into small groups and assign statements to each group. Let the group record the main points of its discussions.

4. *Select* two or three statements from those listed below.

5. *Ask* students to examine the statements you have chosen and decide what they would say:

   (a) If they went to Marshall Lagoon who would be likely to agree or disagree with what was said and what reasons might they give for their views.

   OR

   (b) If the person who made this statement would have said the same thing ten years ago.

   OR

   (c) If the person who made this statement would say the same thing in say ten years' time.

   OR

   (d) If the person is *not* likely to say the same thing in ten years' time let them say what changes must have taken place.

   OR

   (e) If the person *is* likely to still be saying the same thing in ten years' time let them say why.

TOPIC 3 - YEAR 2 - TERM 1: TEACHING THE TOPIC

6. *Discuss* the comments made by students by letting the group secretary report on the main points the group discussed.

7. *Review* the main points of the discussion on the importance of the changes that have taken place in the Marshall Lagoon community.

Lesson 9
Lesson 10

1. *Introduce* the two lessons, by noting that students are to use the understandings they have gained about change in the Marshall Lagoon community to decide what changes they believe will take place in, say, the next five or ten years.

2. *Show* the suggested slides on Marshall Lagoon.

3. *Decide* on the appropriate class organisation to let students examine these two questions:

   (a) What do you think will look different in these slides of Marshall Lagoon in five (or ten) years' time?

   (b) Why do you think it will look different?

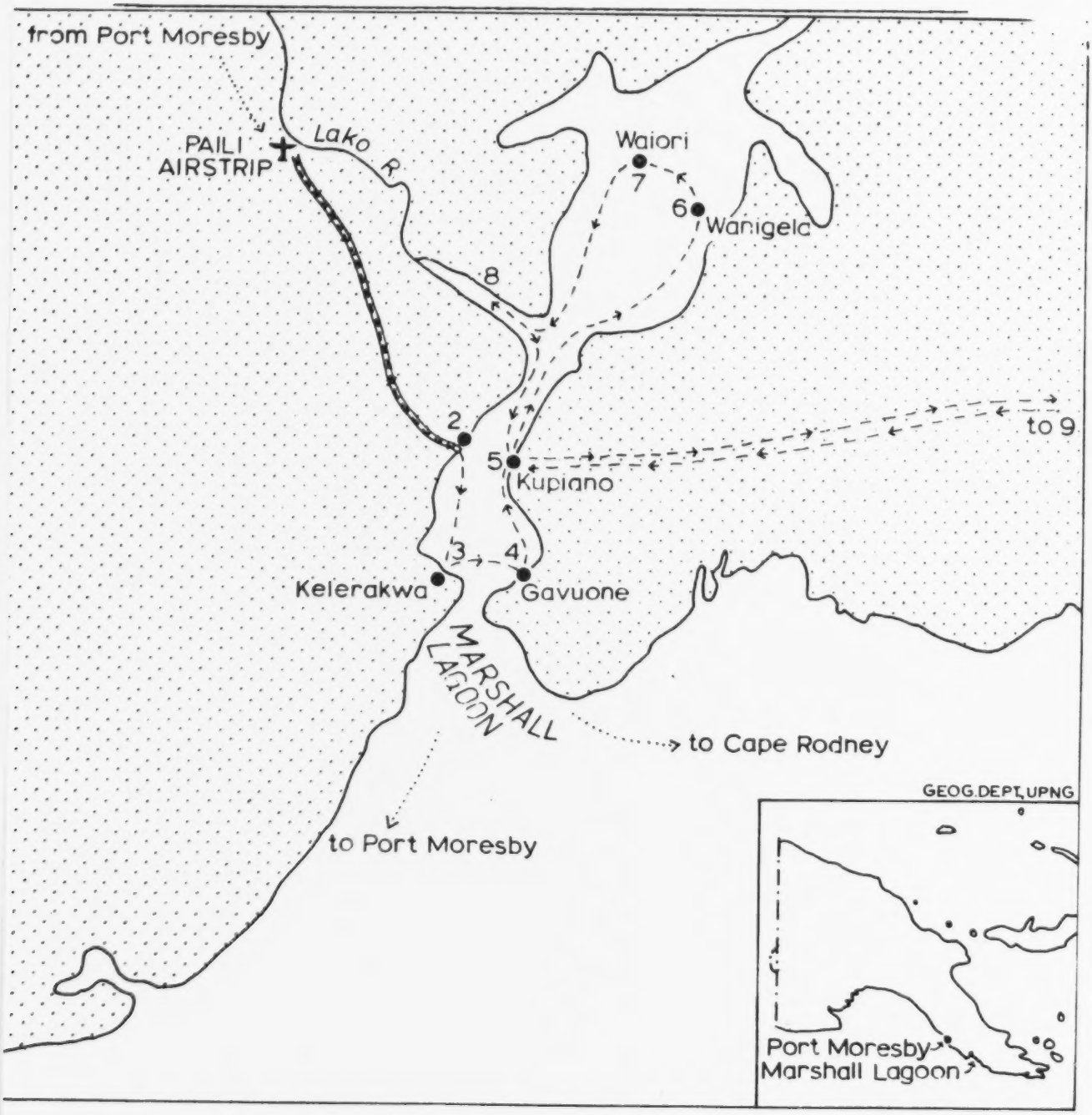
4. *Discuss* the answers to the questions, using as evidence the slides, the commentary, the two student summary sheets or other records which have been made during discussions in previous lessons.

5. *Review* the main types of change suggested by students, together with their supporting reasons and evidence.

6. *Link* with the next three lessons, by noting that students will complete a test on *'Thinking About Change in the Community'*.

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY - page 65

Change in the Marshall Lagoon Community - A REFERENCE MAP



SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY - page 80

Change in the Marshall Lagoon Community

A SUGGESTED BLACKBOARD SUMMARY - 1

Column A THINGS THAT HAVE CHANGED	Column B EVIDENCE TO SHOW THIS CHANGE	Column C SLIDE NUMBER
(Suggested Topics)		
Houses		
Clothing		
Transportation		
Family Life		
Money Earned		
Jobs of Men		
Links with Other Places		
Markets		
Education		
Skills of Men		
Government		
Community Life		
Traditions		
Agricultural Crops		
Industry		
Community Services		

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY - page 81

Change in the Marshall Lagoon Community

STATEMENTS MADE BY PEOPLE WHO LIVE IN THE COMMUNITY

Statement Sheet 1

1. There are more Europeans in this sub-district than there would be in some other sub-districts. Some of them, of course, work at Pacific Island Timbers. Other Europeans do government work: agriculture, public service work, education and other services. The Senior Medical Officer is a Papua New Guinean.

(A Headmaster)

2. There is a great number of men in this area who work in Port Moresby and who send their money back to their people. This would probably explain why there is a lot of money being spent in the towns.

(Trade Store Owner)

3. There are several things that make it difficult to encourage cattle projects here. Land disputes mean that no one can find a large enough area of land that he can use without the approval of his fellow village people. Knowing how to run a cattle project is also a problem. The Department of Agriculture runs management courses but these are held in centres outside of Marshall Lagoon.

(Assistant District Commissioner)

4. Not many young people marry outside their own village. They don't have the opportunity to go to other places in Papua New Guinea and marry boys from other villages.

(15 Year Old Girl)

NOTE: These pictures are projected to the class as a series of colour slides.

SECONDARY SOCIAL SCIENCE SYLLABUS - A CASE STUDY

Change in the Marshall Lagoon Community - PREDICTING CHANGES

NOTE: These pictures are projected to the class as a series of colour slides.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(11) Waigani Social Science Project

The Waigani school is multi-racial and non-graded. It enrols children from widely different backgrounds. The school therefore has special problems and an insatiable appetite for materials that can cater for individual needs and differences. The school is on the University campus and the Faculty of Education has a special responsibility there to help provide materials for teachers and students.

The project was originally seen as a sort of store-house of print and non-print materials where teachers and students could find ideas and activities for teaching and learning Language, Social Studies and Science. However the teachers at the school soon realised that what was really needed were resources for a one year basic Social Studies course.

So the project changed direction but kept its three main themes - *PEOPLE, PLACES, HAPPENINGS*. Its main objective, loosely stated, was to promote group activity between individuals of differing abilities.

The format for the course material was quarto-sized cards, divided into subject sets. For example in Term 1 the theme *PEOPLE* is divided into five sets:

What People Look Like
Families
People's Houses
Important People
Distribution and Numbers of People

Within each set there are six cards designed to broaden concepts through examples from different parts of the world with emphasis on Papua New Guinea and/or Australia. (Most of the children at the school are either Australian or Papua New Guineans). Each subject set is kept in a box together with revision card and activity sheets.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(II) Waigani Social Science Project (continued)

In most cases the cards have accompanying slides, cassette tapes, film strips, photographs and books. All the materials are clearly labelled so that they can be manipulated by children on their own.

The class works in groups of three or four. Each child is given a printed activities sheet on which to record what he finds out. These can be later bound to form a complete record of his term's work. The teacher's role is that of adviser, supervisor and provider of sources of reference.

In the third term the project was used more extensively for teacher training purposes. It was used in an in-service workshop for primary school teachers. Faculty of Education students prepared materials on the theme *HAPPENINGS* and also observed and evaluated these materials in the classroom. The photographs in the following pages show materials designed and prepared by a student and a section from the evaluation form.

A lot more work is needed on this project. The observers' comments on the course in action reaffirmed what we felt to be its weaknesses.

1. It relied too heavily on reading ability.
2. What the teacher had to do was not clearly enough defined.
3. The cards were not developed into an integrated sequence.

Its main strength was in the variety of media used and its ability to promote individual and group co-operation among children of differing abilities.

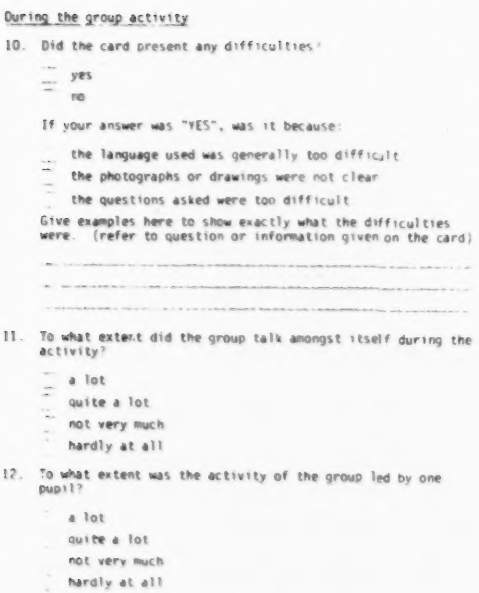
It is hoped this year to develop some of the better units into a well indexed resource for teachers and students to use. Centre staff will participate in creating and designing new materials for use in social studies for existing syllabi and co-operate with the Department of Education in formulating new ones.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: SOCIAL SCIENCE

(11) Waigani Social Science Project (continued)

For a more detailed description of activities, evaluation procedures and course outline write to:

Research Assistant
Social Science
Teaching Methods and Materials Centre
University of Papua and New Guinea



During the group activity

10. Did the card present any difficulties?

- yes
- no

If your answer was "YES", was it because:

- the language used was generally too difficult
- the photographs or drawings were not clear
- the questions asked were too difficult

Give examples here to show exactly what the difficulties were. (refer to question or information given on the card)

11. To what extent did the group talk amongst itself during the activity?

- a lot
- quite a lot
- not very much
- hardly at all

12. To what extent was the activity of the group led by one pupil?

- a lot
- quite a lot
- not very much
- hardly at all

A section taken from the observer's evaluation form.

HAPPENINGS IN RELIGION AROUND THE W...

CARD 1

INTRODUCTION TO THE WORLD'S MOST IMPORTANT RELIG...

MAKE SURE YOU HAVE CHECKED YOUR WORKSHEET FOR THE ... FOR THIS CARD.

AS YOU LISTEN TO THE TAPE YOU WILL BE ASKED TO DO SOMETHING.

ALL THE THINGS YOU HAVE TO DO WILL BE WRITTEN LIKE THIS IN CAPITAL LETTERS.

PUT THE TAPE IN THE TAPE RECORDER.

YOU WILL READ THE CARD WHILE YOU LISTEN TO THE TAPE.

OPEN THE CARD AT PAGE TWO AND SWITCH ON THE TAPE.

In fact, many people think about God and men and life in their own different ways. This was even true in Papua New Guinea. Before the people learned about Christ they worshipped God in the spirits of trees or rocks and above all in the spirits of their ancestors.

LOOK AT THIS PICTURE OF PAPUA NEW GUINEANS SACRIFICING A PIG FOR THE SPIRITS OF THEIR ANCESTORS.

...E CHRISTIANITY (continued)

HOW YOU ARE READY TO DO THE ACTIVITIES FOR THIS CARD.

LOOK AT THE TIMECHART ON PAGE 20.

PUT YOUR FINGER ON THE BOTTOM PICTURE OF ABRAHAM AND HIS SON ISAAC.

TOGETHER IN YOUR GROUP MOVE YOUR FINGER UP THE TIMECHART AND LOOK AT EACH PICTURN IN TURN. YOU CAN TALK ABOUT EACH PICTURE AS YOU DO SO.

ON YOUR WORKSHEETS THESE PICTURES ARE IN A DIFFERENT ORDER. COLOUR THE PICTURES, CUT THEM OUT AND PASTE THEM ON THE TIMECHART PROVIDED.

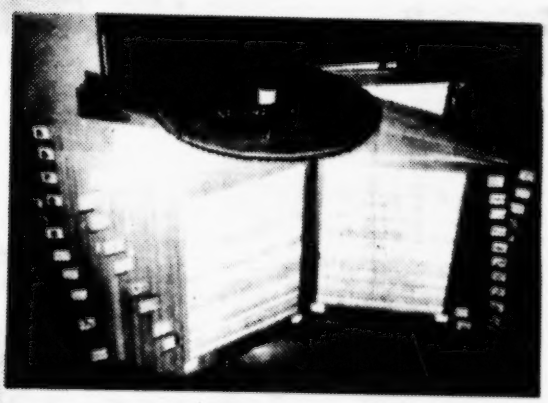
WHEN YOU HAVE FINISHED YOUR ACTIVITY YOU MAY LOOK UP SOME MORE INFORMATION ABOUT THIS TOPIC IN THE FOLLOWING REFERENCES:

1.	GOOD NEWS FOR MODERN MAN			
2.	Book for Card 2.		THE CHRISTIAN CHURCH	
3.	WORLD BOOKS	L	Eastern Orthodox Church	pp 30 - 31
4.	WORLD BOOKS	JX	Jesus Christ	pp 82 - 87
5.	WORLD BOOKS	P	Protestant	pp 735 - 736
6.	WORLD BOOKS	QR	Roman Catholic	pp 377 - 379

Cards taken from *Religion Around the World* Topic in Term 3
Waigani Social Science Project.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: INFORMATION SERVICES

(1) Descriptive Profiles and Index to Sources



The Centre's system of *Descriptive Profiles* for storing information about materials for teaching Science and Social Science was described in the last Annual Report - pages 11 - 24. In this report a description is given of the matrix being devised for describing English language materials. In 1972 work on the preparation of *Descriptive Profiles* will continue for Mathematics, English and Religious Studies. Other indexes to methods and activities in materials held by the Centre will be compiled.

A visual Index (illustrated above) to sources of supply for teaching materials has been compiled and as new sources of supply are discovered they will be added to the index. This index will form, also, the basis for a general index of AV suppliers which is to be compiled by the Australian Library Association.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: INFORMATION SERVICES

(I) Descriptive Profiles and Index to Sources

In the index, sources of supply are grouped in panels for that media. Each entry is colour-coded according to the subjects for which they are producing materials. For example suppliers of 16 mm films for teaching English appear in the 16 mm film panels on green cards; suppliers of films for teaching Mathematics appear in the same panels but on blue cards.

(II) Enquiries Received

Requests for information about methods and materials came in steadily throughout 1971. But learning to ask questions about teaching and materials to which you can get useful replies is a skill. We do not get many requests which are specific enough as to topic, level and educational objectives to allow us to provide a really useful reply.

The examples given on page 66 are typical of the problem

Dear Sir,

Can you please kindly help me. I am carrying out an experiment on individual work. I have made up work cards and answer cards which are nearly for all subjects. I feel that this method of teaching is much more effective.

Can you help me by giving me some individual work cards for all subjects in upper primary grades. If nothing is there, can you suggest where I could obtain appropriate material .....

Dear Sir,

I'm teaching Std V. and I have great worries that my pupils won't achieve much in Social studies. Not because I don't teach them but merely because we lack social studies text books. I'm especially find it hard as I'm just a new graduate. I have no text books to guide me. I'll be most grateful if you will send these to me.

.....

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: INFORMATION SERVICES (III). *The Bulletin*

In 1971 nine issues of the *Bulletin* were published as a supplement to the Department of Education *Education Gazette.*

Bulletins for 1972 will contain more detailed information about new materials and methods.

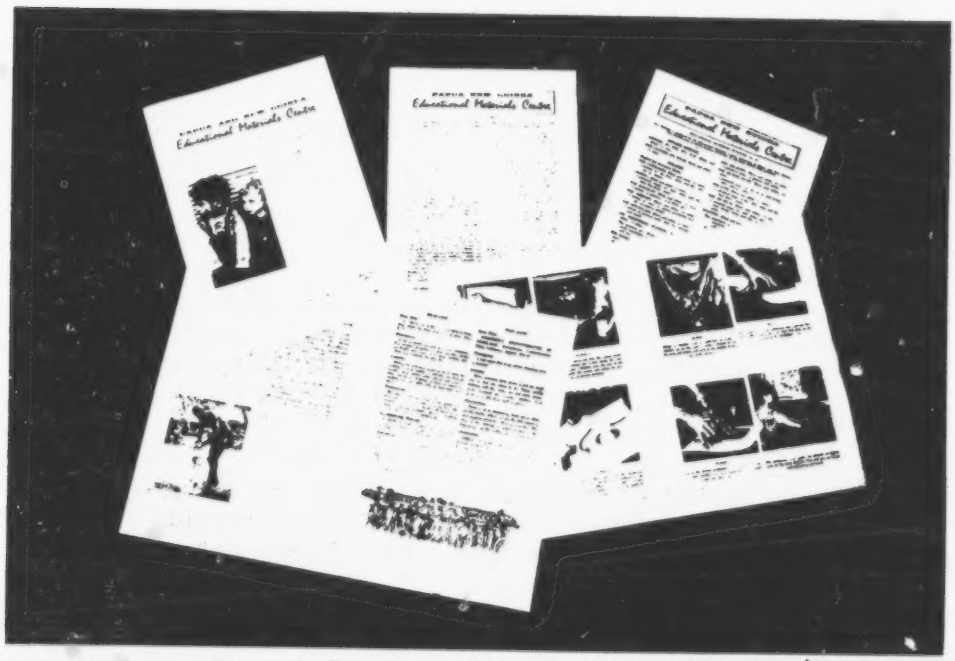
Topics for bulletins in the first half of 1972 will include:

Extending Reading in the Primary and Secondary School

Media and Methods for Teaching Small Groups

Teaching Skills and Stimulating Student Activity in Social Science

Materials and Activities to Supplement Three Phase Primary Science Course.



DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: INFORMATION SERVICES

(IV) Regional Clearinghouse

At the *Subregional Conference on Curriculum Development* sponsored by the South Pacific Commission and UNESCO held at the School of Education University of the South Pacific, Fiji from June 28 to July 10 last year it was proposed that a regional clearinghouse for the South Pacific be established for information on curriculum development, educational materials and research at all educational levels in the region - the region to include Australia, New Zealand and Papua New Guinea.

Details of the resolution follow:

(a) The supply of information would be the responsibility of individuals and organisations working in the region and that it should be provided in a specified format to be drawn up collaboratively;

(b) all interested persons and organisations in the region should be entitled to draw freely on the information resources of the clearing house, each in its own field;

(c) the clearing house should have the responsibility of establishing links with similar institutions outside the region, making itself part of a global information network, and so able to feed in relevant information from outside the region;

(d) as this will involve the screening and selecting of information so as to ensure that what is stored and handled is of local relevance, the selection may be done on a sub-regional basis using existing institutions to sift information received. For example:

United Nations Development Project at the University of the South Pacific could sift information received on curriculum development in general;

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: INFORMATION SERVICES

(IV) Regional Clearinghouse (continued)

Educational Materials Centre at the University of Papua New Guinea could sift information received on educational materials in general;

Australian and New Zealand Councils for Educational Research could sift information received on educational research in general;

more specialised institutions like the Australian Science Education Project; the Curriculum Laboratory of the University of Sydney; and the Centre for Teaching at Macquarie University could sift information received within their special areas of interest;

(e) a sub-committee representing existing institutions in the region should be set up to proceed with drawing up a blueprint for the activity;

(f) the University of Papua New Guinea's Educational Materials Centre with its present system of information storage would be an ideal locale for this clearing house;

(g) approaches should be made to a suitable international agency to finance this activity on a trial basis - say for one year.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES

Media Projects

In 1971 media projects like all other projects that were undertaken last year began in response to pleas for assistance. While projects might have been concerned with such a medium as the school radio, the tape recorder or the filmstrip projector, the implications of such media for curriculum development and materials design are always a major consideration. Media are not considered apart from a learning situation except in cases where technical reports on performance and design are asked for.

In the following pages five projects on media are described.

(i) School Broadcasts Survey
(ii) School Radio Design
(iii) Filmstrip and Slide Projector Trials
(iv) UNEXPRO Project
(v) Guides to Using AV Equipment

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: MEDIA PROJECTS

(1) School Broadcasts Survey

The *School Broadcasts Advisory Committee* of the *Australian Broadcasting Commission* asked the Centre to survey what primary school broadcasts were listened to by teachers.

A national sample of some 1200 teachers in 303 schools in 10 regions was selected and the number and type of school in the sample is shown in the accompanying graph (opposite). This sample represents 20% of the schools in Papua New Guinea.

A questionnaire was designed to collect data from teachers in schools in the national sample. Responses from teachers were X's marked in appropriate boxes in which titles of school broadcasts were written. Four questions were asked:

1. What school broadcasts did you listen to nearly every week?
2. What broadcasts did you listen to only once or twice?
3. What broadcasts did you want to listen to but were not able to?
4. What broadcasts did you not want to listen to?

The survey covered school broadcasts offered in 1971.*

A trial of the questionnaire was run in the Northern and Central Districts in term 2, 1971. Following minor modifications to the questionnaire, the survey was conducted in term 3, 1971. Data from a 75% return are at the time of writing being processed.

A first glance at data shows that teachers widely followed the series of school broadcasts offered for their particular level of teaching, perhaps more so for teachers in one- and two-teacher schools.

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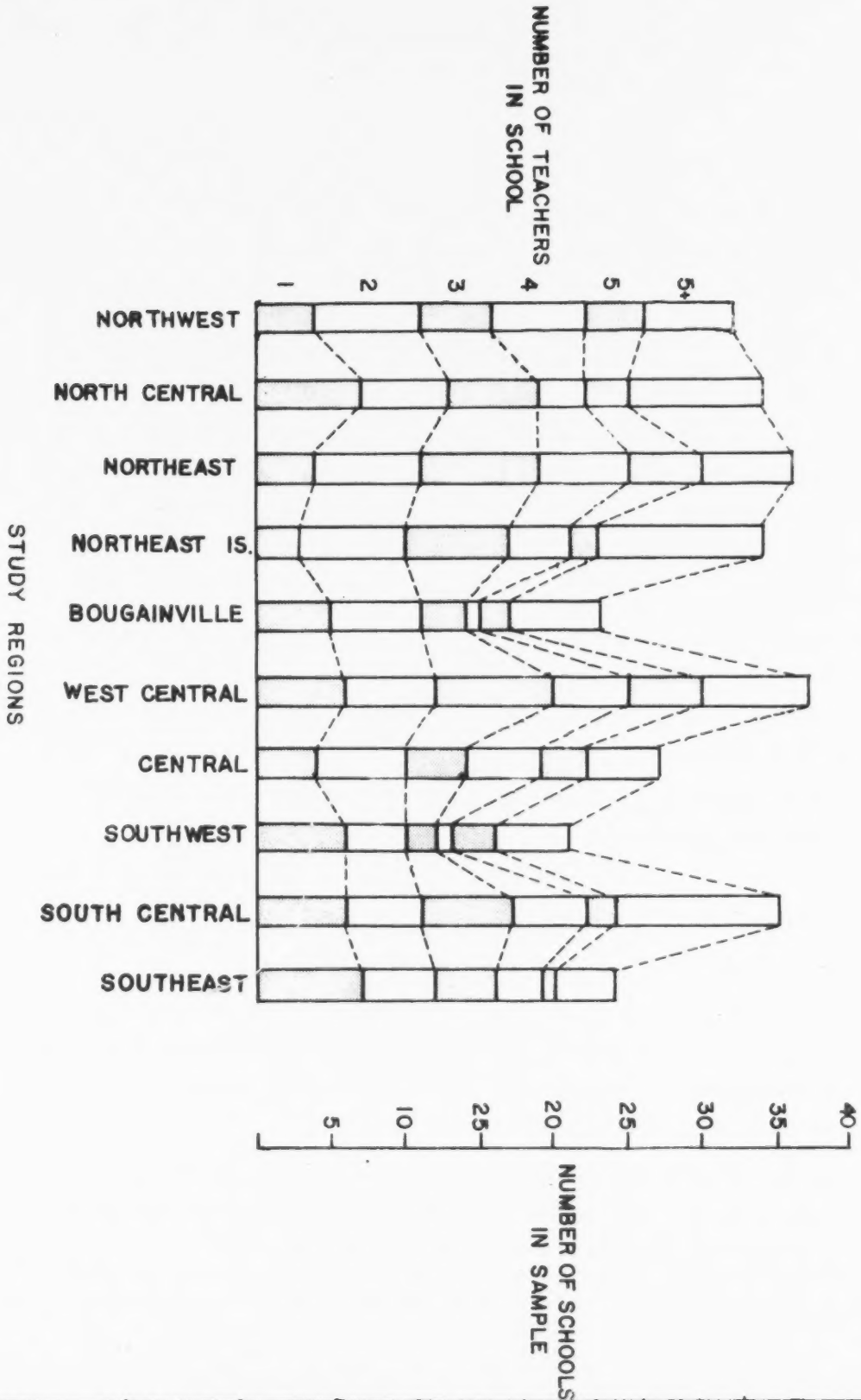
* *Research Report 13* describes the trial survey in detail. Copies of this report are available from the TMMC.


NUMBER OF SCHOOLS BY TEACHERS IN STUDY REGIONS
NUMBER OF TEACHERS IN SCHOOL
1
2
3
4
5
5+
NORTHWEST
NORTH CENTRAL
NORTHEAST
NORTHEAST IS.
BOUGAINVILLE
WEST CENTRAL
CENTRAL
SOUTHWEST
SOUTH CENTRAL
SOUTHEAST
STUDY REGIONS
5
10
15
20
25
30
35
40
NUMBER OF SCHOOLS IN SAMPLE

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: MEDIA PROJECTS

(1) School Broadcasts Survey (continued)

A final report is to be submitted to the *Advisory Committee* for consideration and then recommendations for a second study will be made. There are several directions in which a second study could go: a study of a series of broadcasts in a special area offered over standards 1 - 6, of one level of a series of broadcasts throughout the year or a study of more general aspects of school broadcasts - teacher preparation, the cognitive aspects of broadcast supporting materials and so on.

The Centre hopes to develop a continuing relationship with the sample schools so that regular collection of data may be used to review the educational contribution of school broadcasts in Papua New Guinea.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: MEDIA PROJECTS

(11) School Radio

The Department of Education is now selling to schools a radio and loud-speaker combination. The design of the radio was determined by research and the trial of prototypes. The most important features of this combination are:

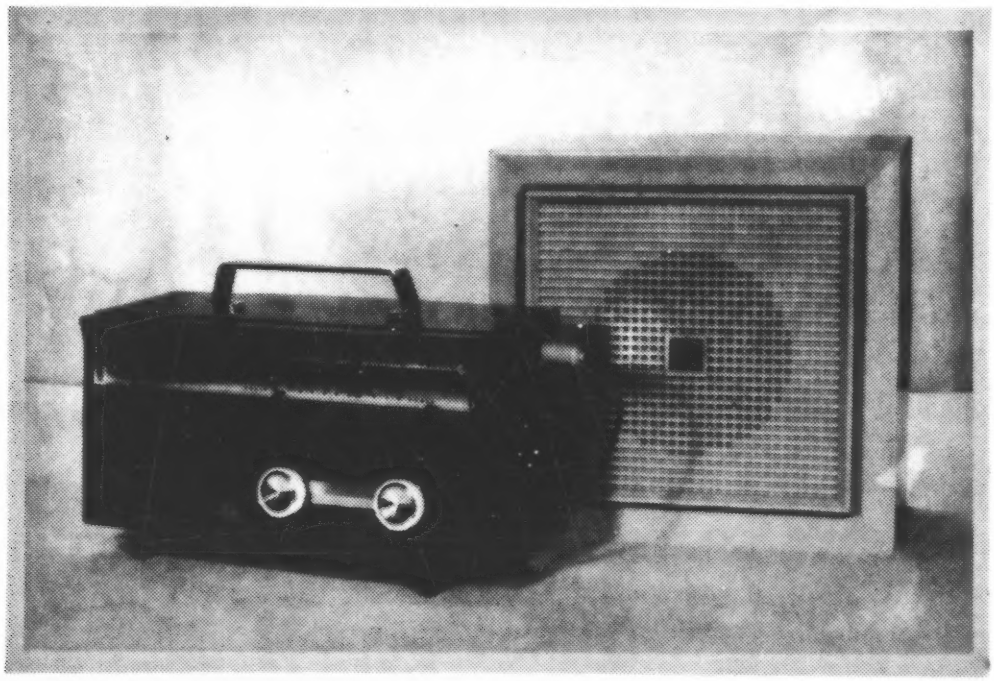
1. The radio is short wave only on a single wide band. All stations in Papua New Guinea are available on one band with school broadcast stations marked on the dial by their call signs.
2. Each jack on the radio is different so that incorrect connection is difficult. There is a DIN jack for the attachment of a cassette tape recorder for recording broadcasts. The aerial jack is for the attachment of a long wire antenna and the speaker jack is the flat and round pin type so that there can be no confusion. The speaker also fits a recommended cassette recorder.
3. There is no tone control. The tone is pre-set on the treble side of flat to reproduce speech best of all. Both the internal and external speaker operate together. This means that better reproduction can be obtained in the classroom by placing the radio at one side and the speaker on the other.

DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: MEDIA PROJECTS

(III) Filmstrip and Slide Projector

Negotiations with Leitz CMBH Wetzlar have resulted in an efficient 12 V battery operated strip-slide projector being produced for schools in Papua New Guinea at a very reasonable price. The same projector is available in a 240 V version. A report on the production of this projector is given in Research Report 10 available from the TMMC.

School Radio and Speaker used in Papua New Guinean schools.



DEVELOPMENT, PROGRESS AND PLANNED ACTIVITIES: MEDIA PROJECTS

(IV) UNEXPRO

A pilot study is being made of the possibility of undertaking a continuing programme of University extension work through the preparation and distribution of audio-visual materials. At present a slide/tape production on the life of Sukarno is being prepared by a University lecturer in Politics and the Centre's Educational Materials Officer. The slide/tape programmes and necessary equipment for their presentation may be used by teams of University staff and students on tour or they may be presented in towns throughout the country by arrangement with people living in the various places. Printed materials are being produced to support the tape/slide programmes.

The target audience for the pilot study is primary and secondary teachers and teachers' college students. But if the project continues programmes could be prepared at various levels and in various languages to suit a wide range of audiences.

(V) Guides to using Audio-Visual Equipment

A *Handbook for the Overhead Projector* was produced. This guide covers techniques for using the overhead projector, different types of transparencies available, methods of making transparencies and some hints on maintenance.

Another guide produced is to the operation of the sixteen millimetre motion film projector. This guide is part of an audio-visual kit for individual instruction in the operation of this equipment.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre of research projects relevant to but not directly concerned with curriculum and materials

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EDUCATIONAL RESEARCH UNIT, University of Papua and New Guinea

DR J. JONES and MR G. KEMELFIELD

With the establishment of this unit late in 1971 it is hoped that systematic research will be conducted into what is happening in classrooms with existing curricula - particularly in the areas of Science and Mathematics.

Research is also planned as a major project into models of rural community education. This project is seen as having great significance for curriculum innovations.

FACULTY OF EDUCATION, University of Papua and New Guinea

1

MR K. JOHNSON

A technique for the Analysis of Classroom Behaviour Under Various Teaching Situations.

The study was carried out at the Waigani Primary School on the campus of the University of Papua and New Guinea to examine the effectiveness of family groups working under various teaching situations. The conclusions reached were as follows:

1. The study produced no reasons why the family groups system should not be extended, and revealed a number of important advantages particularly in relation to peer teaching and pupil interaction in general.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

2. Doubts often expressed concerning individualised methods of instruction and peer teaching were shown to be unfounded; at least with regard to the classroom.

3. The study produced objective evidence to support the subjective impression that this was a 'good' classroom.

4. The study showed that the observation techniques could be used effectively in the classroom.

A number of research projects were proposed in an appendix to the report* on the study and it is hoped that teacher training institutions in this country will collaborate with Mr Johnson in further research.

2

DR J.P. POWELL

Difficulties encountered by Lahara Session students. During December 1971 and January 1972, provisional matriculants taking undergraduate vacation courses completed a questionnaire and were interviewed with the aim of discovering the kinds of academic and personal problems which they were encountering. The interviews and analysis of results have been carried out by a student. A report will be available by mid-1972.

3

DR J.P. POWELL

Small-group teaching methods in the University. During 1971 and 1972 a variety of tutorial meetings, ranging from leaderless groups, to formal tutor-led seminars, have been tape-recorded. The aim is to throw more light on the dynamics of teacher-learning groups and to suggest ways in which University teaching may be made more effective. The data is being analysed in terms of members' participation rates and the cognitive

* Research Report 8 - available from the TMMC.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS
Reports from outside the Centre (continued)

content of their contributions. A report will be ready by the end of 1972. The project is funded by the AVCC. (Australian Vice-Chancellor's Committee)

4

DR J.P. POWELL

Survey of UPNG students. A sample of 100 Niuginian students was interviewed during the second semester 1971 and information was collected under the following headings: *career plans; study habits; social life; opinions concerning the University; knowledge of an opinion concerning constitutional development.* Interviewing and data analysis have been carried out by students. A report will be available by mid-1972.

5

DR J.P. POWELL

Learning strategies of undergraduates. A small sample of University students will be given a series of interviews and asked to keep study diaries during the first semester 1972. The aim is to discover the learning strategies used by students, to evaluate their effectiveness and to suggest ways in which they might be modified. A report will be available by the end of 1972.

6

DR J.P. POWELL, MR J. BRAMMALL and MR M. WILSON

Villagers' attitudes towards education. The main object of this investigation is to collect opinions from Niuginian villagers concerning the primary school curriculum and the social role of the primary school in rural areas. These data will be made available to the Department of Education at Konedobu to assist with curriculum development. Preliminary studies will also be undertaken of the place of school leavers in village communities, the attainment of scientific concepts, and various aspects of cognitive development. A group of staff and students will carry out fieldwork in the Tambul area of the Western Highlands during June and December 1972. A preliminary report will be available at the end of 1972.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

7

PROFESSOR E. ROE

A study of the process of teacher education by analysing links in teacher education programmes between teacher/lecturer, student and material. To date studies have been made of a small randomly selected number of final year students in eight Australian teacher education institutions. In an attempt to compile a full record of their experiences in one week of their teacher education programme, tape recordings were taken of all formal classes. Handout material and copies of notes taken by students were collected. Students were also asked to keep a detailed diary of all work they did inside and outside of formal classes connected with their professional education as a teacher, reading, discussions with peers or lecturers etc.

The project now continues with analyses of the data. The data will be categorised to reveal links between lecturer, student and materials. Distinctions will be made between student initiated learning with materials and lecturer initiated learning with materials.

8

MR E.B. THOMAS

Surveys of the attitudes of UPNG Preliminary Year students[1] and Port Moresby Teachers' College students towards self-government and independence were conducted during the latter half of 1971. The results of the Port Moresby Teachers' College survey were presented to the Primary Teachers' Colleges'

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[1] See E. Barrington Thomas, *Attitudes Towards Self-Government and Independence*, U.P.N.G. News, No. 27, January 1972, pp 1 - 4.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS
Reports from outside the Centre (continued)

Social Science Workshop held at Hotel Rouna on September 29, 1971.[2] Lecturers were urged to give particular attention to the development of political awareness and understanding in their students.

Mr Thomas was invited to address the Political Education Committee of the Department of the Administrator in October 1971, and also a Seminar attended by Political Education Officers at the Administrative College in November, on the implications of his survey for the country's political education programme.

9

DR G. TREVASKIS

Two studies were completed, one late in 1970 and the second early in 1971. The purpose of the studies was to record the academic activities of a student chosen at random from those pursuing preliminary year studies. This year of study precedes the first year of undergraduate studies to cover what is generally a form 5 and 6 course.

The author sat in classes with the student recording lectures, tutorials and practical sessions. He also examined all material handled by the student - text books, readings, guides, handouts, lecture summaries, practical session notes and so on. A note was also made of all that he himself wrote during his class and lecture sessions. He completed a study diary to note what work he completed during non-committed hours during the day and in study at night. The courses observed included English (Language and Literature) Social Science, Mathematics, Science, History of Science and Technology. The tutorial sessions were analysed according to the verbal interaction category system developed by Ned A. Flanders.

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[2] See E. Barrington Thomas, *Students' Attitudes Towards Self-Government and Independence: A Survey at Port Moresby Teachers' College*, **Report on the 1971 Primary Teachers' Colleges' Social Science Workshop**, (Konedobu: Department of Education, 1971), pp 45 - 54.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

General conclusions reached from the studies pointed to the strong relationship that existed between how materials were presented to a student and the style of teaching adopted by instructors. In most cases, the design of the materials was highly structured, in turn leading to highly structured teaching styles with little flexibility shown by instructors in their dealing with the specifics of the material. Questioning tended to be direct, calling for specific answers, and rapid in the tempo of their asking. Discussion in any group situation was limited. Critical appraisal of student answers was rare and there were few attempts to pick up a student answer in order to follow it through, through open-ended questions.

An examination of the materials used by the student revealed a variety of format presentation, type styles, level of reading difficulty, detail of content and degrees of guidance for study. The implications of this variety showed themselves in the demands they placed on the students' study time and on his ability to first read, understand and then prepare either for tutorial sessions or written exercises. Over 100 pages of material, for example, passed through the student's hand in the week.

Some of the questions raised by the study related to assumptions made by staff about their students, the extent to which they were aware of the implications of their materials-related teaching, the study load placed on a student both in the class session and outside of it, and the possible conflict between objectives of a course and the materials which supported it.

It is hoped that studies of this kind, carried out regularly each year, will provide preliminary year staff with a picture of what it means for a student to pursue preliminary year studies.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

10

MR M. WILSON

1970 Standard 6 Leaver Survey. There has been considerable discussion recently of the role of the primary school in Papua New Guinea and of the relevance of the curriculum to primary school children and the life they will lead after leaving school. The purpose of this survey is to find out what children do after completing primary school - how many go on to further education and of those who leave school how many also leave home, what sort of work they do and, finally and most difficult, what use they make of some of the basic skills learnt at school. The survey has been carried out by part-time education students mainly in the schools in which they are teaching. The data are at present being analysed but preliminary results indicate that the great majority of leavers remain in their village during the first year, that few get paid employment and that most make some, if rather spasmodic, use of the skills they learnt at school.

11

DR C. ZINKEL

A rather intensive survey of selected vocational centres in Papua New Guinea was made during the latter part of 1971 and early 1972. The purpose of the survey was twofold: first, to attempt to assess vocational centres on their own merits, and second, to attempt to assess the degree the centre serves the immediate community. Results tend to suggest that the majority of centres belong in the below average category with perhaps ten percent attaining the rank of excellence. Also the majority appear not to be serving or meeting the needs of the community in which they are located.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

12

DR C. ZINKEL

During the period 1970 to 1972, a study of school leavers in selected communities of Papua New Guinea was undertaken. This consisted of a series of informal discussions with professional educators, students at tertiary and secondary levels, primary pupils and former primary pupils, parents and the general public whenever available. The problem appears to be in its formative years now, and strategies should be developed to prevent it from becoming a serious social problem within the nation. One of the main causes of the problem is that the primary school and its curriculum have no relationship to the society in which the school is located. Immediate curriculum revision is imperative.

DEPARTMENT OF INFORMATION AND EXTENSION SERVICES
P.O. Box 2312, Konedobu, Papua New Guinea

1

MRS R. MOULIK

A pilot study in perception conducted in the Central District.

Subjects generally preferred bold, clear and big prints. Photographs preferred to detail line and single line drawings. Have high comprehension of perspective in illustration. Low perception of both major and minor actions in complex illustrations. Prefer positive action illustration. Prefer small drawings to larger ones.

A detailed report of this study was published in January, 1971 and is available from the above address.

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

2

MRS R. MOULIK

A study of communication networks in two Papuan villages.

From source to receiver message travels at the rate of 1:5. The flow of information is restricted to the secondary level. Village councillors or religious leaders tend to be the key person in the communication network. The network is limited to family and clan. Major distortion is in the form of omission of part of the message.

A detailed report of this study was published in April, 1971 and is available from the above address.

3

MR R. MORRIS

A study of radio use was conducted in Morobe and Madang.

Pidgin is the most suitable language for broadcasting - comprehension of material is very limited. Speed of delivery, unfamiliar concepts and dialogue are the main barriers to comprehension. Repetition is a considerable aid. Main areas of interest are news and traditional music of their own. Prefer interviews to talks.

Detailed reports of these studies were published in October, 1970, and January, 1971, and are available from the above address.

4

MRS R. MOULIK

A study of adoption process in relation to the Development Bank Loans was conducted in the Eastern Highlands District.

Agricultural agencies and radio are the most important sources of information. 10% of borrowers took decision regarding the adoption of new ideas

by themselves at the application stage. The innovators are mostly literate and younger. Loans are taken by villagers irrespective of their social positions in the village.

A detailed report of this study was published in September, 1971, and is available from the above address.

5

MR R. MORRIS

A study of radio clubs was conducted as an experimental project in the Eastern Highlands District.

During a five month project in the Eastern Highlands District, in which an attempt was made to establish village radio clubs, a format for a weekly radio programme was developed based on the type of material that interested the village audiences. The main elements of the programme were:

1. Music - mostly traditional - recorded directly in the village.
2. Village news.
3. Traditional stories.
4. Comments on current events.
5. A weekly serial - Haus Bilong Sosoman - which dealt impartially with social affairs relevant to the lives of the village groups.
6. Comments on world and Territory events.
7. On air stories and comments by two villagers who helped conduct the programme as guests each week.
8. A simple quiz between the two guests dealing with current affairs.

6

MR R. MORRIS

An evaluation of a special Political Education Project was conducted in the Eastern Highlands District.

In connection with the evaluation of a Political Education Project to be

RESEARCH RELEVANT TO CURRICULUM AND MATERIALS

Reports from outside the Centre (continued)

carried out in the Eastern Highlands District (beginning from March 1972 - for 6 months), two Thurstone-type Attitude Scales are being constructed, one concerned with Self-Government and Independence and the other with National Unity.

A number of other tests will be used in this project to assess attitude change.

An attempt will also be made to experiment with different approaches to discussion groups for uneducated Pidgin speaking groups.

LISTS REPORTS AND OTHER PUBLICATIONS OF THE CENTRE

Lists

Apparatus and Equipment for Mathematics Teaching

Films in the Teaching Methods and Materials Centre

Sources and Supplies of Audio-Visual Materials for Teaching Secondary Mathematics

Tapes and Discs for Teaching English

Visual Materials for Teaching English

Reading Lists for Teaching English as a Second Language

Teacher Reference

Periodicals for Language Teaching

Problems in Using L2 Medium

Grammar, Structure and Usage

Psycholinguistics

Sociolinguistics

Phonology

Introduction to Language and Linguistics

Teaching English as a Second Language - Bibliographies held in the TMMC

Aids to Language Learners

Methodology

Classroom Techniques

LISTS REPORTS AND OTHER PUBLICATIONS OF THE CENTRE (continued)

Topics in English Teaching

Composition

Structural Exercises

Reading Skills

Phonetics

Comprehension

Special Subject Interest

Technical Engineering

Commerce

Science

Publications

Descriptive Profiles and Manual

Preparing Descriptive Profiles: A Manual for Observers
Waigani: Educational Materials Centre, University of Papua and New Guinea, 1970

Preparing Descriptive Profiles for Science Materials
Waigani: Educational Materials Centre, University of Papua and New Guinea, 1970

Book I: BOOKS

Book II: FILMS AND FILM LOOPS

Book III: FILMSTRIPS AND TRANSPARENCIES

Book IV: TAPES AND DISCS

* *Book VI: KITS*

Book VII: WALL CHARTS, OVERHEAD TRANSPARENCIES, MAPS

Book VIII: MODELS

NOTE: Set of 7 Profiles for Science Teaching Materials with Manual and sample punched cards - $5

* *Book V is reserved for School Broadcasts. It has yet to be prepared.*

LISTS REPORTS AND OTHER PUBLICATIONS OF THE CENTRE (continued)

Preparing Descriptive Profiles for Social Science Materials
Waigani: Teaching Methods and Materials Centre, University of Papua and New Guinea, 1971

Book I: BOOKS

Book II: FILMS AND FILM LOOPS

Book III: FILMSTRIPS AND TRANSPARENCIES

Book IV: TAPES AND DISCS

NOTE: Set of 4 Profiles for Social Science Teaching Materials with Manual and sample punched cards - $3.50

SECONDARY SOCIAL SCIENCE PROJECT:

Teachers' Guides Part 2 and AV Materials

Year 1

Topic 1.1.1 *Individual and Community*

1.1.2 *Self Study*

1.1.3 *The Family*

1.2.1 *The School*

1.2.2 *The Village*

1.2.3 *Local Survey I, Popondetta*

1.3.1 *Local Survey II, Local Area*

1.3.2 *The European in Papua and New Guinea*

LISTS REPORTS AND OTHER PUBLICATIONS OF THE CENTRE (continued)

Year 2

Topic 2.1.1 *Change in the Individual*

2.1.2 *Change in the Family*

2.1.3 *Change in the Community*

2.2.1 *Development in Papua New Guinea*

NOTE: The complete set of Teachers' Guides for one year with sample student materials and A.V. materials costs $40. Materials for a single topic are $5 per topic. To purchase these materials write to:

Curriculum Branch
Department of Education
NEWTOWN, PAPUA NEW GUINEA

Other Publications

Extensive Reading in High Schools: An Annotated List of Books for Readers of English as a Second Language

Phoneme Discrimination: Oral Work for Students in Papua New Guinea - 25 cents

Bulletin offprints still available:

Bulletin No. 13	*Teaching About Government*	April, 1971
Bulletin No. 14	*Teaching About Cities*	May, 1971
Bulletin No. 15	*Materials for Teaching About Family Life*	June, 1971
Bulletin No. 16	*Teaching About Conflict*	July, 1971
Bulletin No. 17	*Teaching About What People Do*	August, 1971
Bulletin No. 18	*Teaching About Money*	September, 1971
Bulletin No. 19	*Creation and Use of Materials*	October, 1971

LISTS REPORTS AND OTHER PUBLICATIONS OF THE CENTRE (continued)

Research Reports

Research Report 1: *Evaluation of the World Health Organisation Teaching Workshop*, Papuan Medical College, Port Moresby, 1969

Research Report 2: *Evaluation of the Extension Manual, Department of Agriculture, Stock and Fisheries*, 1969

Research Report 3: *The Tape as a Teaching and Learning Material in Nurse-Aide Training*, 1969

Research Report 4: *Teaching and Evaluation Practices in a Papuan and New Guinean High School*, 1970

Research Report 5: *Use of Direct and Indirect Questions in Materials Designed for Student Use*, 1970

Research Report 6: *Interaction in a Form 1 Classroom of a Papuan and New Guinean High School*, 1970

Research Report 7: *A Week in the Academic Life of a Preliminary Year Student, University of Papua and New Guinea*, 1970

Research Report 8: *A Technique for the Analysis of Classroom Behaviour Under Various Teaching Situations*, 1971

Research Report 9: *Report on Evaluation of Phases I and II UNICEF Primary Science Project*, 1971

Research Report 10: *Report on Tests of Leitz Pradix Slide/Strip Projector*, 1971

Research Report 11: *Report on Materials Developed by the Reserve Bank for Use in Papua New Guinea*, 1971

Research Report 12: *Report on the Draft for a Revised Extension Manual for the Department of Agriculture, Stock and Fisheries*, 1971

Research Report 13: *Report on School Broadcast Survey conducted for the Australian Broadcasting Commission and the Department of Education: The Trial Survey*, July, 1971

STAFF OF THE TEACHING METHODS AND MATERIALS CENTRE

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Assistant to the Director	Marjorie Roe (retiring March, 1972)
	Elizabeth Greicus
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Research Assistant	Deanna Isoardi
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Research Assistant	Oli Talu
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Lecturer	Michael Wilson
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TYPIST	Nama David

ACKNOWLEDGEMENTS

The Teaching Methods and Materials Centre owes a great deal to the generosity of the:

makers of materials and educational equipment who continue to help the Centre;

members of the Ministries of Education in other countries who continue to send samples and descriptions of their materials;

staff of materials centres and similar units in other countries who continue to give advice;

interested people with a variety of educational responsibilities in Papua New Guinea who still freely give their time and skills to the Centre;

Education Department of Papua New Guinea (Primary, Secondary, Teacher Education, Technical and Educational Services Divisions);

Department of Information and Extension Services;

Australian Broadcasting Commission;

University Library, Departments of Anthropology, Biology, Chemistry, Economics, English, Geography, History, Mathematics, Physics, and Politics, University Photographer and the officers of the Administration of the University of Papua and New Guinea.

Finally the Centre owes its appreciation to those many persons who came from overseas to visit and assist the Centre by sharing their experience, time and resources.